

Only  
48p!

**BARGAINS? WE GOT 'EM!** Save over £15 - page 33

# NEW COMPUTER EXPRESS

*First news, first reviews - every week*



-page 5

**Arrowing experience:**  
new game for Jockey

# PROBLEMS WITH YOUR COMPUTER?

**Avoid drastic measures! Express can help! We've bin there before!**  
*Turn to our special guide beginning on page 24*



Facts, news and reviews for  
**YOUR machine** - pp 36-43

**Amiga  
Atari ST  
BBC  
C64  
CPC  
MSX  
PC  
PCW  
QL  
Spectrum**

## Sword of Sodan



The best  
sound and  
vision on the  
Amiga? *page 16*

## AMSTRAD:

Lotus bundling deal looms but staff get the  
chop for Christmas - *page 2 & 5*



## BAN THOSE VIOLENT GAMES

Guess who wants to kick out the  
so-called computer nasties?  
Mary W. has her say

-page 6

## Do it yourself databases

Those people who moan about not being able to find a cheap business package, tailor made for their own needs should sit down and write one for themselves.

That's the theory of *Executes Software* which is due to launch an Applications Development System which will form the basis for 'almost any business application'. According to boss Tony Thorne even the least computer literate PC owner will be able to handle the simpler programs such as table databases. The programs will allow users to form a package from scratch or modify some existing programs.

"You need to know what's best for your business rather than how to program. But if you can program then you could be writing very sophisticated applications," he claimed. "Someone good enough could set up their own software house using the Code Generator."

Executes is putting the basic database generator out on showrooms and is then selling more programs with manuals at £25. It also hopes that more ambitious users will invest in the £240 full range which are supplied with modified disk source code already generated. Telephone 0401 44955.

# HOW IT'S AMSTRAD THE LOTUS EATER

Amstrad is planning to bundle Lotus' integrated package Symphony with its entire range of PC2000s.

Symphony itself has been all but superseded by the £500 follow up Symphony II, but the package is said to be ideal for first time PC owners. However, experienced PC users may find the 1986-launched product to be outdated.

Amstrad, in traditional fashion, is not prepared to comment on the matter but it is likely that the bundle will be officially announced within the next few weeks. Symphony itself includes such features as spreadsheet, word processing, business graphics, database and a communications package.

This represents a continuation of Amstrad's attempts to lure the upmarket PC user. The launch of its more powerful machines last autumn has been coupled with the even more recent to offer a package as attractive and complete as possible. Amstrad has customarily found suc-

cess in branding suitable software with its machines.

When it happens it will be the first time that the two giants have signed a deal. In the past Lotus has opposed a strictly hands off approach to Amstrad's branding activities.



Symphony: Bundled with the 2000s

## Character building

An Archimedes games compilation is set to be launched which includes the option of creating your own characters.

Repton 3 from Superior starts a screen and character designer which offers twice the resolution of the BBC version. Superior is staging a competition for the best new screen and set of characters submitted with a cash prize of £300 on offer.

The £20 compilation includes Repton 3, Repton 4, Repton 5, Repton 6, The Life of Repton and Repton 7.



Repton: £200 here

## Amstrad mag trio scooped

The trio of official Amstrad computer magazines have been sold off to publisher Focus for an undisclosed sum.

Amstrad PCW Magazine, Amstrad Computer User and Amstrad Professional Computing were published by Database subsidiary Amstrat. They have been sold - apparently for a modest sum - in an effort to concentrate efforts on the firm's 16-bit magazines. What Focus intends to do with the publications is still unclear. One area of ambiguity is Focus' established PCW mag. Amstrad PCW: It would appear

perverse for one company to be publishing two PCW magazines but Focus has still not decided whether or not to merge the two mags.

"There quite sure that there is a future in all aspects of the Amstrad market," commented Focus chief executive Richard Heas. He went on to say that all employees on the magazine would be offered a job at Focus. However, it is thought unlikely that there will be many takers on this offer given that Database is in Steinkamp and Focus is in London.

Either way Focus hopes to run

the magazines in much the same way as previously. One part of the deal between means that Database gains the rights to ST Update which will now become integrated with ST User.



Amstrad PCW: Off to Focus

## Dangerous' hacker banned from telephones

A hacker has been declared so dangerous to the community that he has been ordered to be kept in custody without access to either a keyboard or even a telephone.

Kenn Wink has been charged by Los Angeles Police for computer fraud and faces up to 20 years in prison. The 25 year old's charges include altering a judge's credit record, tampering with his own police files and causing £2 million worth of damage to a computer owned by Digital Equipment.

The Newsmaster style hacker was gaining access to unauthorised long

distance codes in Los Angeles and when he was only 17 when he connected his computer up to a public telephone and altered people's telephone bills and stole secret data valued at £100,000.

"When armed with a computer he poses a danger to the community," said a magistrate.

The practice of completely cutting off a prisoner's telephone calls is highly unusual and this is believed to be the first case in 95 years which makes it a crime to enter an interstate computer network for criminal purposes.

LAUNCH EDITOR Chris Anderson • CONTRIBUTOR/REVIEWER Peter Worlock • NEWS EDITOR Colin Campbell • REVIEWS EDITOR Andy Sower • STAFF WRITER Rick Haynes • PRODUCTION EDITOR Rod Lambert • ART EDITOR Julia O'Shea • ART ASSISTANT Harriet Atkinson • SECRETARY/RECEPTIONIST/MAIL MANAGER Mark Salmon • AD DESIGNER Jennie Evans, Sophie Lankford • AD TRAINER Tony Turner • PUBLISHER Gray Ingram

© Future Publishing Ltd  
4 Queen St, Bath, BA1 1LJ  
Tel: 0325 44834 • Fax: 0325 44839

## Fox fights back

Business software giants Fox and Ashton-Tate have dashed once again over their respective PC database programs.

Fox last week issued a response to Ashton-Tate's low suit of two months ago which claimed that FoxBase is a rip off of dBase IV. Fox is not only aggressively denying all of

A-T's charges but it is accusing the firm of misrepresentation of Fox proprietary information as well as unfair competition and illegal misappropriation of the market.

Such is the anger in Fox corners that the firm wants all copies of dBase IV to be impounded and destroyed. It also wants substantial

damages against A-T.

Fox alleges that A-T stole some of its ideas while the two firms were on more friendly terms. Fox had originally informed A-T that it would be releasing a product similar to dBase and other negotiations. A-T apparently approved.

The claims go on to suggest that Ashton-Tate

encouraged other firms to use its products as a basic language basis so that it could dominate the market. It is estimated that A-T has 60 per cent of the database market.

Such is the intricate nature of these legal and fiery cases that this affair is likely to run for many months, if not years.



## SANYO STORMS IN

Giant electronics firm Sanyo is planning a string of launches for the first few months of this year, including an upgrade of its low-cost XT.

Other products on the horizon include a 386 laptop, a laser printer/OTF system, and an Intelligent Disk Server for 386 networks.

The new 8888 XT is the Mark II version of its existing 8888C. The 3.5 inch disk based machine will run at 10 MHz and may even be cheaper than the 386 price of \$580. Sanyo though has once again stressed that it does not intend attacking the low cost PC market largely dom-

inated in the UK by Amstrad.

"Our PCs are made with metal cases and are really for those people who want to pay for reliability and longevity from their machines. There is a certain kind of computer user who would rather pay extra for those qualities," said Sanyo's John Culbert.

MPC386 Mark II should be first shown at the Which Computer? Show in February with general availability soon afterwards. Higher end machines such as a 20 and 40 megabyte version should also be available then.

The ST3868 eight page per minute

laser printer will be bundled with OTF package Timesaver at a price of something approaching £1,600. Sanyo is calling the bundle the ideal solution for those people who not only want to start on OTF but also want a system approaching the quality of Ventura.

It is being claimed that the Intelligent Disk File Manager will speed up some networked applications by up to ten times. "The biggest problem with networks is having to wait for disks to load," said Culbert. "You just have to stick this box into one of the file server's expansion ports and in some cases it speeds things up by ten times." The only bad news about this is that it is likely to cost £5,000.

## GOVERNMENT EYES GAMES CENSORSHIP

Young gamers could be banned from buying certain titles, following calls for a government enquiry into computer software violence.

Growing pressure in the United States for a computer clampdown has prompted Conservative MP Geoffrey Dickens to ask the Home Secretary Douglas Hurd to set up an enquiry.

As yet the Home Office has not responded to Dickens' request although it is thought likely that an enquiry will be set up later this year.



• Dickens: Restricting games

Dickens hopes that a censoring board can be put into place quickly, to those in the film and video industries.

Games which are deemed to be exceptionally violent will be given an 18 certificate with slightly milder titles given 15. In the past, some computer games have been graded but only after being submitted by

the software house voluntarily. The most published cases were CRUX Double (15) and Jack the Ripper (18).

"We've got an Act in place to monitor which videos get into the home and I think it wouldn't be such a bad thing to do the same with computer games," said Dickens. "We need a forum in which to view these games before they reach the shelves."

At the time of going to press Dickens was waiting to hear from Hurd on the matter. The board of enquiry, if it is set up, will consist of "experts" such as child psychiatrists and entertainment pundits. If their findings are not favourable then Parliament may well pass an act restricting age groups or even banning some games.

"Children today might see a thou-

sand homicides a week on television even before playing these games," continued Dickens. "I think that cheapens life and that is dangerous."

Venerable morals crusader Mary Whitehouse is also looking to restrict the availability of violent computer games. She told *Express*: "To produce something which is so violently violent is irresponsible. It's crazy."

Dickens felt sure that the enquiry's research would take a very long time. "These things aren't done overnight," he commented. "These are awful things but Acts aren't passed by me sounding off."

Nintendo is the US has recently come under attack for what some researchers described as a lack of responsibility in selling violent games to impressionable youngsters.

## Stacey II on the drawing board?

Atari is contemplating launching a second ST laptop as a follow on to Stacey - but any plans are currently about as embryonic as they possibly could be.

A handful of industry watchers claim to have seen the design sheet at Comdex late last year with some making direct comparisons with Toshiba ultra light 1600 portable. Atari UK's boss Bob Gladwin though is bemused by suggestions of a second machine, and is denying any knowledge of it. He suggested that the Atari laptops might have mistaken the plans for Atari's forthcoming Pocket PC.

Yet one leading computer pundit thought that *Express* that this was extremely unlikely given the calibre of those people who have seen the machine's blueprint.

One possibility is that Atari US was simply "tying a knot" in order to gauge instant reaction. This may well have come direct from Atari's technical department "sounding off". Details are scant although the plans showed the machine as having no hard disk and a blue back-lit LCD screen.



Gladwin: Atari spurns 'error'

Atari has long implemented the tactic of sounding out the public by leaking plans of forthcoming machines and then seeing how well the idea is received. That though is usually done with machines which are at least in the middle of development.

Either way, one suggestion is that Stacey II will only weigh about eight pounds. Stacey itself weighs in at about 14 pounds and has been in development for 18 months now. Since then, the portable market has progressed rapidly.

## GAMES TOP TWENTY FULL PRICE

1	Operation Wolf Spec. C64 CPC ST Amiga	32.99
2	Robocop Spectrum C64 CPC	32.99
3	Rhinozaur Spectrum C64 CPC ST	29.99/39.99
4	Double Dragon Spectrum C64 ST Amiga	29.99/39.99/49.99
5	Thunder Blade Spectrum C64 CPC ST Amiga	39.99/49.99
6	Ghosts Spec. C64 CPC	29.99
7	Last Ninja 2 Spectrum C64 CPC	29.99/39.99
8	R-Type Spectrum C64 CPC ST	39.99/49.99
9	Football Manager 2 Spectrum C64 CPC ST Amiga PC	49.99/59.99
10	Game Set and Match 2 Spectrum C64 CPC	29.99
11	Panorama Spec. C64 CPC ST Amiga MSX	39.99/49.99
12	Return Of The Jedi Spectrum C64 CPC ST Amiga	39.99
13	Tails 'n' Eggs Spectrum C64 CPC	32.99
14	Batman Spectrum C64 CPC ST Amiga	32.99
15	Four Soccer Simulators Spectrum C64 CPC	29.99/39.99
16	Falcon C64 ST	49.99/59.99
17	Rambo 3 Spec. C64 CPC ST	32.99
18	Elite Spec. C64 CPC ST Amiga PC BBC C64 MSX	39.99
19	Supreme Challenge Spectrum C64 CPC	39.99/49.99
20	Microprose Soccer C64	49.99/59.99

## GAMES TOP TEN BUDGET

1	Joe Blade 2 Spec. C64 CPC ST BBC C64 Gaster	14.99
2	Ramp Jack Spectrum C64 CPC ST Amiga C64	19.99
3	European Five-a-Side Spectrum C64 CPC	19.99
4	Commando Spectrum C64 CPC BBC C64 Electron	19.99
5	Footballer Of The Year Spec. C64 CPC BBC C64 ST Amiga PC	19.99
6	Advanced Pinball Simulator Spectrum C64 CPC	19.99/29.99
7	Leaderboard Spectrum C64 CPC ST Amiga PC Amiga 50	19.99
8	Air Wolf Spectrum C64 CPC BBC C64 Amiga 50	19.99
9	Ghosts Spectrum C64 CPC Amiga 50 MSX	19.99/29.99
10	ACE 2 Spectrum C64 CPC C64	19.99

COMPARED BY GALLUP

ALL PRICES IN POUNDS

## America's No. 1

Americans spent a total of \$2.9 billion on the Nintendo game machine this year making it the biggest selling toy of 1988. Half of the purchases were made during the Christmas selling period.



NEW COMPUTER  
EXPRESS

## OUR OPINION

## ...And a happy New Year

Superficially, 1989 has begun much like any other computer year. Amstrad is planning another bundle, an instant-run Atari machine is being discussed and the moralists are saying *Something Must Be Done* about violent computer games. Sure, Amstrad has booted out a handful of staff, but at this stage it's difficult to see that as anything other than the sort of pruning that even the best-run companies have to indulge in.

But what makes this year so very different is the general health of the leading firms. Gone are the days of the grim reaper calling companies before your very view (and before they'd had a chance to supply - let alone support - the products you've paid for). Talk these days is largely of increasing sales - not of re-arranging bank debts.

OK, so some small order firms have gone to the wall. That, unfortunately, will always happen.

But the truly good news about 1989 is that it is already shaping up to be the most exciting year in computing.

LEAN AND HUNGRY  
AMSTRAD CUTS STAFF

Amstrad has ordered a range of job cuts in an attempt to improve efficiency at its Bosworth headquarters.

The action - in a firm renowned for growth not job losses - has surprised observers. In all eight staff have been made redundant including Miles Mordecai, a senior figure in the company's software department.

One inside source has told *Express* that the cuts were a purge "of anyone seen to be a tin sniffer" and that the software department especially was undergoing a thorough shake-up.

Although Amstrad is known for its ruthless approach to business it is playing down these events. "I wouldn't

read too much into it," said a spokesman.

"Amstrad is a fast growing company. We had to stop and say 'hold on'. It was a case of employing too many people."

"Amstrad has always taken the view that the firm needs to be lean to be efficient. Therefore it cannot



• Mordecai: Amstrad veteran out

employ people who aren't necessary. It will be no consolation to those people who lost their jobs but the numbers were small."

## Could do better?

Computerised teachers will be pleased to hear that a student report writing package is being introduced by Ashford Press.

Ashford claims that with the £40 pack teachers can now compile more detailed reports quickly enabling parents to know exactly what their offspring are up to. Teachers and other educational types should call 0229 894265.

The return  
of Durell

Eighteen months after dipping out of the games industry Durell Software has re-emerged.

This time, the firm which brought you *Subotek* and *Combat Zone* is keeping a low profile and sticking to simply developing games for other companies. For the moment, Durell is working exclusively for Again Again on *Subotek J* and *Operation Nemesis*.

Durell's boss Robert White was known to be disillusioned with the rough and tumble of the games industry when he dropped out in September '87. Even now he is preferring to take the role of software hermit and is declining to talk to the press.

Again Again's boss Roger Hulley explained to *Express*: "Robert isn't one for the bright lights. He's just working with us at the moment because it means no fuss. It's all clear cut and simple."

During the past year or so Durell's small team of programmers has been busying away on business projects. It is understood though that White was always keen to make a comeback into games software, albeit at the program-

## Amiga portable planned by ambitious US duo

The first portable Amiga is being developed in the US by "a couple of hackers who thought it would be a good idea".

It's hoped the machine will be launched in the US at the New York AmigaExpo in March with UK availability planned for early summer. The expected US price is \$2,200.

But the company formed to develop the portable is having difficulty raising cash. "We're just a couple of Joe Small

computer users who figured that someone would be developing an Amiga portable, so why not us?" said partner Mike Morrison.

The machine - called the Journey Man - is being put together by Rhode Island based Micro Momentum. It includes two 800K 3.5 inch disk drives and a seven inch amber monitor. Plans are afoot to develop a colour monitor.

For the moment the

machine will run off mains supply only, and weighs in at 35 pounds. Micro Momentum also plans a battery operated version later in the year. Journey Man was planned to weigh 25 pounds but the expense of a light carrying case prohibited that.

Commodore apparently approves of the development, having no plans of its own to manufacture such a machine. The firm feels the potential market is too small.

"We've been using Commodore's mother boards and they've helped us out here and there," explained Morrison.

"But they've pretty much decided to stay out of our way. We've had problems getting money together. It's really been done on a shoestring with the investment so far running to about \$10,000. But we're selling Amiga T-Shirts and a calendar to get some funds."

(See also Amiga 800)

## It's Jocky on the Oche for Zeppelin

Caddy darts here and drinking supreme Jacky Wilson has been scooped up by Tyneside based software house Zeppelin Games for a budget darts game.

Zeppelin apparently picked up the Wilson licence at bargain price. At the time of the deal the ample arrow thrower had just managed to put himself through the first round of the British Darts Championship. "He was looking a bit dodgy at the time but we wanted to sign him up because he represents the character of darts," said Zeppelin's Brian Jobling. Wilson went on to win the championship.

Jacky Wilson's Darts Challenge is out now on the major 8-bit formats for £2.99. 16-bit versions are not expected.



• Aming high: Wilson with the Zeppelin team

## Oric owners: Your machine needs you!

Isolated Oric users grieving the ever dwindling supply of software can take heart that enthusiasts are still doing their bit to support the old machine.

Cheshire based Horne and

General Computing specialise in supplying Oric users with whatever software there is. The firm has just come up with a new adventure called *The Last Warrior* priced at £4.95.

Boss Alan Whitaker is still looking out for new programs. "Any computer needs some blood to maintain interest and I'm always on the lookout for anything new from Oric owners," said

Whitaker. "I know there are a lot of gifted Oric users and these work very much as they are appreciated by other users."

More info on 061 302 7369



Whitehouse: TV, video - and now computer games?

# Computer games really screw you up?



Operation Wolf and others: Violence on the screen leads to violence in the head, which leads to violence in society... Well, that's the theory at any rate

**That is what a group of campaigners are claiming in the US and here, as the prospect of a Government committee looking into violent games looms. COLIN CAMPBELL talks to those with the opinions, the research and with the most at stake...**

## Violence breeds violence I

Of course this is something which causes a great deal of concern, whether it's TV or video or video games. At our very first meeting 15 years ago we said that if you continue to portray violence on a wide scale then you produce a more violent society.

To produce something which is radically violent is irresponsible. It's crazy. Does it bother you that computer games involve playing an active role rather than just a passive one?

On the face of it that does seem to be worse. But that shouldn't absolve those which you just watch. Either way it becomes a way of life. It becomes like the Romans in the Amphitheatre. Do you agree with the notion of warning stickers?

I think stickers could attract as much as repel. The heart of the matter is controlling it. The Government has committed itself with the Obscene Publications Act due to be heard shortly. We have tried to get this Act to include broadcasting for a long time and we expect it to include video games as well.

First though we need to define the obscenity so that it encompasses violent as well as sexual obscenities. I hope Parliament deals with this in the next session and that the matter of violent computer games is brought forward.

**Mary Whitehouse,**  
Head of the National Viewers and Listeners Association

## THE RESEARCH

Conducted by the International Coalition Against Violent Entertainment, the Campaign, Illinois based US organisation, its findings are based on analysing 95 Nintendo games.

- 58 per cent of the games were based on warfare
- 83 per cent featured violent themes
- The most common war theme was modern war (17 per cent), followed by gang war, futuristic war and fantasy war
- Games picked out as most dangerous were Top Gun, Mike Tyson's Punch Out, Dungeons

and Dragons, Starforce, Sgt Slaughter's Renegades, and beat-em-up Urban Champion

- 90 per cent of eight to ten year olds showed an increase in school bullying on the playground after playing violent video games. (ICAVE accepts that distractions in playground behaviour could be attributed to a myriad of causes but maintains that the long term effect is still present.)

## THE REQUESTS

Following its research, ICAVE has made a series of recommendations. These are currently being

disseminated around news media in the US, in the hope of generating a moral backlash.

- Principally, the recommendations are:
  - A ban on toy guns with video games machines
  - The development of games which involve 'non-violent means of resolving conflict'
  - Legislation that bans the most violent games
  - Legislation requiring labels on all games involving violent conflict
  - ICAVE stresses that video games are not a form of speech and therefore not part of the American First Amendment which sets out to protect freedom of expression

**THE MOST EXCITING  
FILM OF THE YEAR  
NOW FOR YOUR HOME MICRO.**



*This is definitely  
the best film tie-in  
to date, and is an  
utterly superb game in  
its own right - don't miss it.*

**ROBOCOP™**



Take on the role of avenging angel as you mete out rough justice to the perpetrators of evil and lawlessness. Some of the most exciting scenes ever to fill a computer screen confront you. The future is here and now when you take up this challenge - **ARM MAN - PART MACHINE - ALL COP... ROBOCOP.**

ROBOCOP: TM & © 1987 OCEAN SOFTWARE LTD. ALL RIGHTS RESERVED.

Also available for **AMIGA £24.95** and **ATARI ST £19.95**

SPECTRUM  
COMMODORE  
**£9.95**  
AMSTRAD

**ocean**

# SECTOR SOFTWARE

TEL: 0772 454328

**WE ACCEPT  
EXPRESS  
VOUCHERS**

## WE SPECIALISE IN SINCLAIR QL, CAMBRIDGE COMPUTERS, Z88 AND COMMODORE AMIGA SOFTWARE AND HARDWARE.

### COMMODORE AMIGA

Commodore Amiga A500 with Proton Paint (BPP) £70 Work	
Search, edit, print, tutorial disk + modulator	380.00
External Disk Drive for A500	75.00
Philips Stereo Colour Monitor	290.00
A500 RAM upgrade to 1024K + Clock Card	135.00
Cygnus Ed Professional (superb edition)	75.00
Basic (Compiled very fast BASIC)	65.00
Stageglider 2	23.00
Interceptor	23.00
Flight Simulator (Recommended)	35.00

### CAMBRIDGE COMPUTERS Z88

Z88 portable computer	279.00
512K RAM pack	192.00
128K RAM pack	45.00
32K RAM pack	28.00
128K EPROM PACK	52.00
32K EPROM pack	25.00
PC link software and cable	35.00
QL link software and cable	25.00
BBC link software and cable	10.00
Serial printer cable	10.00
Parallel interface	30.00
Custom carry case for Z88	10.00
Mains adapter	10.00

### SINCLAIR QL

Transcode 891K expansion + disk (U)	290.00
Takealotter (allows many programs to run in the QL at once)	25.00
Touch Types (Typing tutor for the Standard QL)	12.00
Spellbound (Checks your spelling as you type)	30.00
Flashback (The latest database available on the QL)	25.00
Page Designer 2 (A full feature colour desktop publisher)	35.00
Omniwrite (RLQ subject in-built mode RSD dumps +	
grey scale)	10.00
QL QL to Z88 file transfer program and lead	25.00
QL World Index (very fast database to contents of QL)	8.00
World	12.00
Writeam (Word Spreadsheets etc sideways in your pen)	12.00

All the above QL software is produced by Sector software. Ask for our full guide/pricelist of our QL software.

### BULLETIN BOARD

We are now running a Viewdata bulletin board on 0772 454328 4pm to 8pm weekdays and at weekends which is mainly QL specific but includes a Z88 section and is soon to include an Amiga section.

We are at the moment writing Amiga to Z88 file transfer software and Amiga to QL software. If you are interested in either of these then please contact us for more details.

We stock too many products to mention in any advert, (we have a regular four page advert in QL World each month), so please send us a SAE or give us a ring for our free product guide and price list.

A goods ordering section is now available on the Bulletin Board, so goods can be ordered by Modem.

### NORTHERN SINCLAIR SHOW

Due to a lack of previous shows in the North for Sinclair machines Sector Software are to be organising a Northern Sinclair show around Preston in Lancashire (next 28 or 29 May) in about March, anyone who would like to be mailed with details or any Spectrum, QL, Z88 companies or peripheral suppliers please contact us for details.

We have a range of QL, Spectrum, Z88, and Amstrad spare parts including service manuals, ring for prices on individual items.

SECTOR SOFTWARE are always on the lookout for Good quality programs for the QL, Z88 or Amiga, if you have written one then please contact us.

Tel: 0772 454328 **SECTOR SOFTWARE** Fax: 0772 454328

39 Wray Crescent, Unles Walton, Leyland, Lancashire, PR5 3NH

Access and Visa accepted. All prices include VAT/UK postage



SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL

# FREE

## COMPUTER ACCESSORIES

WHEN YOU BUY FROM THE  
NO 1 MAIL ORDER SPECIALISTS

When you take advantage of one of our **SPECIAL OFFERS** you can choose either,  
**A DELUXE MOUSE MAT or HEAD CLEANER**, absolutely

**FREE OF CHARGE**

(All offers subject to availability)



25	5.25" DS-DD 96 TPI	With 50 Capacity Lockable Storage Box	£13.95
50	5.25" DS-DD 96 TPI	With 100 Capacity Lockable Storage Box	£20.95
75	5.25" DS-DD 96 TPI	With 100 Capacity Lockable Storage Box	£25.95
100	5.25" DS-DD 96 TPI	With 100 Capacity Lockable Storage Box	£31.95

All Discs are certified 100% ERROR FREE, and are supplied with FULL USER SETS.

20	3.50" DS-DD 135 TPI	With 40 Capacity Lockable Storage Box	£22.95
30	3.50" DS-DD 135 TPI	With 80 Capacity Lockable Storage Box	£32.95
40	3.50" DS-DD 135 TPI	With 80 Capacity Lockable Storage Box	£35.95
50	3.50" DS-DD 135 TPI	With 80 Capacity Lockable Storage Box	£47.95
60	3.50" DS-DD 135 TPI	With 80 Capacity Lockable Storage Box	£53.95
80	3.50" DS-DD 135 TPI	With 80 Capacity Lockable Storage Box	£67.95

All Discs are certified 100% ERROR FREE, and are supplied with labels

Please state  
**FREE ACCESSORY**  
you require

Send to: **THE DISC BANK**  
29 Rodney Avenue,  
Tonbridge, Kent. TN10 4JR  
Telex: 0689 - 61400 (3 lines)

All  
Goods Despatched  
**FIRST CLASS**

E&C



SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL

SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL

SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL OFFER - SPECIAL

# FREE! TENSTAR PACK WORTH OVER £229!

# Commodore AMIGA



FREE! - AMEGAS - by Playtex



FREE! - INSANITY FIGHT - by Microdeal



FREE! - ART OF CHESS - by SPA



FREE! - MERCENARY COMP - by Novagim



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - TERRORPODS - by Pygmalion



FREE! - BUGGY BOY - by Elite



FREE! - THUNDERCATS - by Elite



FREE! - KARI WARRIORS - by Elite



FREE! - WIZBALL - by Ocean



ONLY  
**£334**  
PER WEEK

**£346.95**  
+VAT  
**£399**

INCLUDES  
FREE UK  
DELIVERY

The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's Not Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. (A02)

## WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider why carefully. Here you see it. There are many companies who offer you a computer, a few peripherals and the top ten selling titles. There are FIVE companies who can offer a wide range of products for your computer as well as expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist telephone helpline and on-going after sales support, including free newsletters and literature designed to put you at ease for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years and can now claim to meet our customers' requirements with an accuracy and understanding which is second to none. Here are just some of the things we can offer you:

**THE FULL STOCK RANGE:** The largest range of Amiga related peripherals, accessories, books and software in the UK.

**AFTER SALES SUPPORT:** The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

**FREE NEWSLETTERS:** Mailed direct to your home as soon as we print them, featuring offers and latest releases.

**FREE OVERNIGHT DELIVERY:** On all nationwide orders shipped to Silica Shop or direct to you from the UK mainland.

**PRICE MATCH PROMISE:** We will normally match our competitors' offers on a 'same product same price' basis.

**FREE TECHNICAL HELPLINE:** Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

## PHOTON PAINT PACK

A500 Computer	£399.99
TV Modulator	£24.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£724.43</b>
<b>LESS DISCOUNT:</b>	<b>£325.43</b>
<b>PACK PRICE inc. VAT:</b>	<b>£399</b>

## 1084S MONITOR PACK

A500 Computer	£399.99
1084S Colour Monitor	£299.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£999.43</b>
<b>LESS DISCOUNT:</b>	<b>£350.43</b>
<b>PACK PRICE inc. VAT:</b>	<b>£649</b>

## FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone system, so you can plug your Amiga straight into your TV at home. (The modulator is not included with the A500+1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least), so that you can be the first to experience straight away, we are giving away the brand new TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £725! Return the coupon for details.

## FREE TENSTAR PACK

When you buy the Amiga 500 from Silica Shop, we want to make sure you get the best deal possible. That's why we are giving away the TENSTAR GAMES PACK worth nearly £730, absolutely FREE with every A500 purchased from us. The TenStar Games Pack includes ten titles for the A500, each individually packaged in its own sleeve with instructions.

Amiga	£14.95
Art Of Chess	£24.95
Barbarian, Ult Warrior	£19.95
Buggy Boy	£24.95
Kari Warriors	£24.95
Insanity Fight	£24.95
Mercenary Comp	£19.95
Terrorpods	£24.95
Thundercats	£24.95
Wizball	£24.95
<b>TOTAL RRP:</b>	<b>£229.50 inc. VAT</b>

## DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, or to know we will be pleased to send you copies of our price lists and newsletters, FREE of charge! as this service is yours. Complete the coupon and return it to our Silica Shop branch and begin experiencing a specialist Amiga service that is second to none.

## SILICA SHOP:

**SIDCUP (A & Mail Order)** 01-309 1111  
2 The Mares, Parkway Road, Sidcup, Kent DA14 4DX  
OPEN MON-SAT 9.30am - 5.30pm LATE NIGHT: 10.30pm - 2am

**LONDON** 01-580 4000  
25 Tottenham Court Road, London W1P 2BA  
OPEN MON-SAT 9.30am - 5.30pm LATE NIGHT: 10.30pm - 2am

**LONDON** 01-629 1234 ext. 3514  
Southgate / 1st Floor, Oxford Street, London W1A 1AB  
OPEN MON-SAT 9.30am - 5.30pm LATE NIGHT: 10.30pm - 2am

## PLEASE SEND ME FREE LITERATURE ON THE AMIGA

Mr/Ms/Ms Initials Surname

Address:

Postcode:

Do you already own a computer?  
If so, when did you buy it?





Commodore 64c £79.99  
(Computer Only)  
Amstrad 464 and Modulator £125  
Sinclair Spectrum + £49.99

**MICRO MATE PSU £19.99**  
Commodore Modems £15.00 + VAT

A Selection of portable Audio is now available  
Call us for details

Branded Disks  
5 1/4" - (10) £7.50  
3 1/2" - with labels £1.10 each



## 2-BIT COMPUTERS COMPUTER BARGAINS PC COMPATIBLES

Full Range of Amstrads From **£399**  
The New Commodore PC1 From **£290** + VAT  
The Avalon Turbo (IBM Compatible) From **£490**

### PC SCART TVRGB INTERFACE

Allows an IBM PC Computer or compatible fitted with a colour graphics adapter card to be connected to a normal TV set which has an RGB Scart input socket  
**£59.99**

**WE NOW HAVE THE NEW RANGE  
OF SCHNEIDER PC COMPATIBLES**

### MICRO PERIPHERALS — 135 + —

- IBM + Epson Compatible  
- Tractor + Friction Feed  
- NLQ

\* **£125.00 + VAT**

\* **CALL US NOW \***  
\* **FOR DETAILS \***

Commodore Amiga  
OR  
Atari STFM Super Pack  
\*£399.00  
with 1 Year Trade Price Software  
OR  
A Cash Deal (Hardware Only)  
FOR  
**£350.00**

## 2-BIT COMPUTERS

26-30 Bowesfield Lane, Stockton-on-Tees, Cleveland TS18 3ER

Tel: 0642 604768. Ask for Department MM

**WE ALSO REPAIR COMPUTERS**

## FUTUREPLACE COMPUTERS

TELEPHONE: 01-692 8700

12 Loampit Hill  
Lewisham  
London  
SE13 7SW

### ATARI ST & AMIGA OWNERS WHY PAY TOP PRICES ALL GAMES SOFTWARE AT 30% DISCOUNT

EXAMPLE PRICES	ST
Falcon .....	17.50
Turbo Cup .....	14.00
Lombard Rally .....	17.50
Thunder Blade .....	14.00
Rambo III .....	14.00
Operation Wolf .....	14.00
Pac Mania .....	14.00
Puffy's Saga .....	14.00
Space Racer .....	14.00
Menace .....	14.00
2,000 Leagues .....	14.00

<b>3 1/2</b>	<b>DOUBLE SIDED DISKS</b>
	<b>DOUBLE DENSITY</b>
	<b>135 TPI</b>
	<b>Price</b>
	10 ..... £8.90
25 ..... £22.00	
50 ..... £43.00	
100 ..... £84.00	

RRP	Discount Chart	OUR PRICE
£12.99	.....	£9.09
£14.99	.....	£10.49
£15.95	.....	£11.16
£16.95	.....	£11.86
£17.95	.....	£12.56
£19.99	.....	£13.99
£22.95	.....	£16.06
£24.95	.....	£17.46



PRINTERS	
Citizen 1200 with Parallel Interface .....	£138.00
Citizen 1200 with Commodore Interface .....	£138.00
Citizen 1200 with Serial Interface .....	£152.00
Citizen LSP100 .....	£160.50
Citizen MSP100 .....	£227.70
Citizen MSP40 .....	£315.00
Star LC10 Multifont Printer .....	£209.00
Amstrad LC3500 .....	£328.90
Amstrad DMP 4000 .....	£316.50

### SPECIAL OFFER ATARI ST SUPER PACK £349.00

Includes £450.00 worth of Software + Joystick  
Inc VAT

### CREDIT CARD HOTLINE 01-692 8700

ACCESS VISA DINERS CLUB AMERICAN EXPRESS

Free delivery on all hardware. Software add £1.00 per order. All prices include VAT CWO to Futureplace Ltd. Also Available to order MOBILE PHONES and FAX MACHINES



## Violent reactions I

Because video games will be the number one selling category of toys this Christmas we find ourselves as a target.

There is sufficient reason to doubt their conclusions about violence in video games. Many of our games offer ample proof of the positive role video games can play in adding a young person's physical, mental and social well-being.

All video games and much of life in general revolves around opposing forces. It is these challenges which lead to an achievement orientation. It results in the player feeling like he is a hero

and therefore contributes to his self-esteem. This is a constructive and admirable achievement for any young person.

From the time when most people played Cowboys and Indians as children to this present day, no conclusive research has shown that toys involved with violent themes produce violent behavior.

**Peter Main,**  
Nintendo vice president

## Violent reactions II

The player is largely free from fear of ridicule or

rejection, the impartial machine being his only grader. In short, video games provide the player with a sense of participation and excitement in a very limited and safe way.

**Dr. D.M. Perkins,**  
Author of *Mind's Best Week*

## Violent reactions III

Beating up bad guys, with one hero taking on all these people in video games, channels aggression.

**Marilyn Sachs-Fabis,**  
Clinical psychologist



Radecki: A stickler for stickers

## Violence breeds violence II

The huge majority of computer games are hypocritical and habit forming. Some kids are spending more than fourteen hours a week playing video games and that's another hole out of time which could be spent usefully. There has no socially redeeming aspect whatsoever. It's a total waste of time.

**Isn't violence already part of our society? In fact, hasn't it been such since the year dot?**

The killing here is often of a gratuitous nature. On the whole you don't say that about something like Shakespeare - although there are exceptions. For warfare to be glorified like this borders if for our children and for the future of the world. Surely, we want to make our world a peaceful one? Isn't it absurd to try and produce computer games which don't incorporate violence? That's nonsense. There are many ways of stopping violence and therefore its harmful effects. Computer games such as golf are very popular.

Japanese and American toy companies are making a serious mistake using war and killing as a means of entertaining children. We are forgetting the lessons of World War II and of the numerous smaller wars since that time. Making a game out of killing is one way to infect the world's next generation with a violent way of thinking.

These games are both symbols of the increasing support of militarism in our countries and reinforces this dangerous way of thinking. Our governments must find a way to stop this growing trend.

We want the Government to look at this report and we suggest that they recommend warning stickers on games explaining just what they are. It is the responsibility of elected officials here and in England to stop defective products from reaching children.

**Dr. Thomas Radecki,**  
Research director of the International Coalition Against Video Entertainment

## Violence breeds violence III

I would have thought that a game which involves gaining points for breaking arms or cutting off heads isn't the most sensible thing to be made available to children. We've got an Act in place to monitor which videos get into the home and I think it wouldn't be such a bad thing to do the same with video games so that they pass tests. We need a forum in which to view these games before they reach the shelves.

**What sort of games do you object to most - military games in general or those which involve graphic violence?**

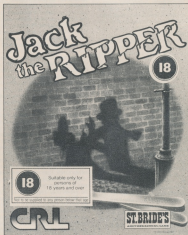
I think the latter because war games in a sense involve planning and defence but it's different when you're scoring points for cutting people's heads off. It's very possible that the drip, drip, drip of violence has a bad effect. But psychologists no doubt differ on this matter.

When I was a youngster the only violence I saw was at the cinema on Saturday mornings with the Lone Ranger or space men. But children today might see a thousand homicides a week on television before playing these games. I think that cheapens life and that is dangerous.

Imagine a child playing a game like this with his friends and becoming particularly good at it. He might come around to wanting to really break someone's arm.

**What do you propose to do?**

I will be speaking to



Jack the Ripper: Will all games have to be classified like this in the future?

## THE RECORD INDUSTRY

Two years ago a small posse of Congressmen's wives campaigned against what they saw as sleazy or sexist records. Their aims were broadly similar to those of ICIVE.

Firstly they wanted particularly 'offensive' records to be completely banned both from the airwaves and from record stores. Also, they campaigned to have warning stickers placed on records which allegedly included Satanic references and, more usually, bad language.

The Washington Wives campaign was covered extensively by the press and media in the States; the record industry crumbled. Certain records have since been banned, with many new showing warning stickers. The upshot is that bands contemplating recording songs which might have offended the Washington Wives had better not have their eyes on the main market.

## BANNING: A CASE STUDY

Woganes was a sensitive issue in West Germany due to the still raw memory of the last war and the creeping underflow of neo-Nazi supporters. Micro-Pose had been fighting in the courts for some time now (sometimes successfully) to overturn rulings on its games.

**But what happens if a popular game becomes illegal to sell?** Can any banning measure ever be wholly effective?

According to Micro-Pose banning simply leads to a lot of grey imports, under the counter selling, and worst, illegal copying. It's impossible to say how much of this goes on as a result of the banning, says the firm, but the German piracy problem is much worse than ever at home.

The software house loses out and yet the game is still reaching those people from whom it is ostensibly being protected.

## MAINTAINING STANDARDS

I am the owner of a PC with a Hercules graphics adaptor. I have found that there is a surprising amount of games software available for it.

I would however like to complain about the state of the documentation corresponding to the graphics adaptor. It seems that software producing companies are intent on making it as difficult as possible to find out which adaptors may be used. I find it much better if the graphics/adaptors were clearly stated on the

OUTSIDE of the box, stopping the rooting round for the piece of paper that gives the nearly useless information 'For use with: Composite colour, composite mono, colour monitor, mono monitor'.

A clear list of graphics adaptors consisting of Hercules, CGA, EGA, VGA or similar is surely not too difficult to devise for software reviewers. I have a PC which is reviewed, a lot of compatible adaptors would be much appreciated. The same applies if a PC version is available for a game being reviewed on another format. Matthew Mill, Clifton, York

## CRACK TO THE FUTURE

Crackers - will they damage the software industry? What a weird question seeing as a great deal of software 'house' games writers learnt the finer points of their craft by cracking games from great writers and leaving from their discoveries on more economical forms of coding, structure etc!

Not a few computer journalists have also cracked games!

Other people have cracked games to 'nibble' them - 'friends level' jokes etc and sell these through the computer mags or send them to mags in the hope of a prize. I myself have done this and won a prize on your sister/brother magazine ACE.

The point is there is no harm at all in this practice. Without it there would be no decent software writers and hence no games.

The harm to the software industry is when money changes hands - selling your legal copy of Super Cosmic Mega Blasters and retaining a copy for yourself as it is wrong as bootlegging disk programs to sell on a large scale.

The pirates in the Crackers Kingdom seem to be the only people who crack games out of academic interest and the challenge. When they swap disks no money changes hands, OK, the software houses lose a few sales, but this is what they have to pay to eventually get competent staff. When did you see a major software house for advertising for untrained programming staff?

Don Griffith, London W6

✓ **Good point. To an unacceptable extent, software houses do benefit from having computer-litererate programmers who have gained their skills through cracking. And it's true that many normal games players have had their fun enhanced by useful tips and the like.**

It only becomes dodgy when games are passed on for nothing which otherwise would have been bought. Talking of which...

## SIMPLY CRACKERS

First let me wish you all a Happy New Year. Thanks for the new magazine, the first I have bought regularly since Personal Computer House died. Apart from the obligatory pat on the back I have written in response to your article about hacking software. Not because I am a hacker, but because I have an opinion.

About two months ago, I bought an Amiga 500 as an upgrade from a CPC 464 and DOS system. I kept my IBM 3000 printer and, after a few teething problems, liked it as a new writing machine for word processing which is my main use for any computer.

In your recent article on the merits of various computers you recommended

the ST and PCW over the Amiga for word processing. I never have been interested in the 'my computer's better than your computer' rivalry argument. The best is obviously the one you have, after all, ST software is no use to me.

Where does hacking come into this you may ask. Originally I bought a software Spectrum, issue 2, because a relative had a Spectrum and some software which I could copy. When I

upgraded to the CPC it was to have a better printer for word processing. I outgrew the small memory, my main output being science fiction novels. The £100.00 price I paid for Amirod put me off buying the PCW and the recent drop came too late. I decided to buy an Amiga because, yes, you've guessed, I had access to copied software.

I now have 26 copied games, some compacted onto a single disk, and three pieces of software which I have bought. These are besides the two PD disks, I also have a disk of disk copiers. Most of the copies have been hacked in some way and I admire the skill of hackers as they are much younger than me (still at school). For instance, on GF there are various four-letter exclamations which come up when the UI dies. Battle Chess needs no password from the handbook, and Manuater 2 is also now password free.

The point of my letter is that FAST and the commercial games writers are wasting their time whingeing on about software theft. I can afford one of their ridiculously overpriced pieces of software about every two months. This is the answer I beg. They lose no money, and the hackers encouraged me to buy the Amiga in the first place. If I had gone for something else, or the software had been impossible to copy, then the magazines, the disk software manufacturers, the blank disk manufacturers and the software producers, would have lost a considerable amount of revenue from me. I have spent more money on computer related items for the Amiga in the last two months than in the last year of owning both a CPC and Spectrum +2.

I say carry on hacking. It's the only way things of us will ever get to use the best of the software. The ones I have are Band's Tale, Rocket Ranger, and King Mards (at your recommendation). All three were excellent buys, and of the copies, I may have bought Carrier Command and Mercenary. The rest are rarely loaded and the disks will eventually be used for my files. As with a PC, a lot of software is lost. The good stuff will always sell. Bill Cox, Maitland, Derbyshire

✓ **There are a number of peculiar points here. Firstly saying 'The best computer is obviously**

✓ **The vast majority of PC games will run on any graphics standard. To put it another way, all the PC games we've reviewed in Express so far will run in all the various modes. Should a game say that specifically requires - say - VGA, then we'll say so.**

In our experience, business packages usually are quite explicit about which standard is needed. But do point out any specific offenders you come across.

the one you have' is fine if you have a computer and are satisfied with it. But if you're a potential first time buyer or an upgrader - like many Express readers - then just as obviously you need all the help you can get. If that comes in the form of 'My computer's better than yours', then so be it. Preferably, that help will come through dispassionate analysis in Express.

Secondly, on hacking - or more accurately in this context, piracy - your arguments are shot through. Code breakers may well have extraordinary talents and be very young. On that basis, a six year old who could pick pockets would also presumably be admirable.

Also, you indicate towards the end that you may indeed have bought a couple of games you obtained legally.

Yet you say that software houses lose no money via hacking or cracking or piracy. That doesn't stack up - and maybe it explains in part why games are 'over-priced'.

## EVEN MORE CRACKERS

In reply to your article on the 'game-busters' in issue 6, it is my opinion that as crackers make no profit, it is just a leisure activity which affects nobody. Some people like to play games; these people like to crack/improve them. Somebody buys the original, and the software houses get their money, and I don't think that they have a claim against these people.

You asked the question, 'will this mean less money to produce innovative software?' I think not. As these people do not resell copies of the games they have cracked, I don't think that this question should be directed at pirates. Then the answer would be yes.

Also, I have just purchased an Amiga 500, with modulator, software etc, and after trying six copies of Amiga 500 Flyer, we still did not find a working copy, is this a common problem? We were lucky and exchanged it for Rock of Ronger which is brilliant. Keep up the good work as the mag is great!

Robert Fitzpatrick, Swansea, Wales

✓ **We've said our piece on crackers for the time being.**

Your Sky Fighter problem is news to us. If you are experiencing these sort of difficulties, you should phone Amco on 0222 52513. Ordinarily, we would have found out for you, but Amco was unavailable when we phoned. You see, the peculiarities of magazine publishing are such that we're putting this section together at 3.30pm on Christmas Day. That, of course, is a lie. It's 5.20.

## WITH AMIGA ALSO THAT...

Recently, after weeks of discussion, I bought an Amiga 500 in preference to an Atari 520ST. Sadly people around me started saying that the Amiga had no future. They said that it wasn't very popular in this country and would soon be discontinued, like the A1000.

To add to my worries, I hear that this new ST Plus is coming along, it is true that the ST Plus will cost £4000 this is the case then has the Amiga had its chip?

As complete beginner, I know nothing about the 16 bit market. Could you tell me how the launch of the ST Plus might affect the Amiga? Also, could you tell me how popular the Amiga is worldwide and what kind of future it has? Thanks! An Amiga owner, Glasgow

✓ **What rumour claims you have aroused? The Amiga isn't as popular as the Atari ST in the UK, but there's no way it's going to be discontinued in this decade. Current sales in this country are around 60,000, with total worldwide levels approaching one million. That means that it has a healthy future regardless of what Commodore or Atari may do. Software houses and peripherals firms will not walk away from these figures in a hurry.**

As there is no confirmation of the ST Plus' price, indications are that £4000 sounds a little bit optimistic - though that may well be typically smart Atari pre-launch disinformation to make everyone fall over in surprise when it's, indeed, finally revealed to be £6000.

It is true that to a limited extent the ST Plus will affect sales of the Amiga. But more likely, both machines will do well by enlarging the market rather than competing directly with each other.

## MORE +2A PROBLEMS

I purchased a new Black +2 Spectrum last month. I thought it was just me having problems loading software - being very new to computers - until I read Roger Marsh's letter in New Computer Express issue 6.

Someone lent me a selection of games. The chess was no problem but Back to the Future, Pioneer and Popeye all caused difficulties. For example in Back to the Future you are supposed to be Marty McFly and keep George and Lorraine together or else the family photo album will disappear and you will cease to exist.

All I could get to happen was for Marty to walk up to 'down' - then the photo-graph vanished and he was zapped with Raydiver it seemed to load OK but then the screen went back to the Amirod 1982 again.

My computer is not solely for games. I have been learning a bit about programming and finding this very interesting. I must admit being very disappointed with my +2 and wondering if I should have spent my money elsewhere! K.M. Walter, Dorking, S. Herts.

✓ **In the absence of a satisfactory explanation from Amirod, it looks as though your problem had been landed with a bit of aiff. As we can do repeat earlier comments that +2A owners could ask software retailers to run any program they intend to buy on the machine before they actually pass over any money.**

## THE REAL THING

Congratulations for at last publishing a computer mag that doesn't pull punches when criticising hardware and software products.

My own particular frustration is with simulation games that claim realism. Being on a pilot's seat can no longer afford the expense! I hanker after a really decent flight sim. Nothing on the market comes anywhere near the 'best' of true flying, although Flight Simulator I could put for its jerky screen update.

So many simulators fall into the same trap: plenty of options and complex instrumentation, wonderful 'padding' but they all fail on the most crucial aspect: SMOOTH SCROLLING.

Microsoft's Falcon, just released for the ST, is a classic example in that claim. In hundreds of programming hours have been spent finding everything but the most important feature. The instrumentation is excellent but the actual flying falls way short of what Microsoft claims. Career Command has proved that smooth horizontal scrolling is possible on the Amiga and ST, so why don't flight sim producers take a leaf out of Rowlin's book and come up with something worth the £29.99 (some change)?

Finally Lombard Rally is a good example of a car simulation failure. Again

there are many features but the actual driving is a disgrace with accelerating, braking and gear changes. If that be the case and money I would see the makers for gross deception in their advertising blurb.

Come on all you simulation buyers! Join with me and tell the software houses you expect a lot more for your money, and tell magazine software reviewers to back up and stop praising software which falls far short of the producer's claims.

Robert Young, Eastbourne, Sussex

✓ **Aside from the actual game play details, the trouble with claiming too much realism in simulators is that they necessarily have to fall short. If you really want to simulate an aircraft, you'd have to produce a game that you couldn't play for more than two thirds of the time. They tend to be stationary in hardware for long periods. You see, still, cars are definitely improving. Objective reviews coupled with fair criticisms can only help.**

Meanwhile, you've won our Special Mystery Prize of the Week: Infamously Purple Saturn Day on the ST. It may not be a simulation, but it's the best ST game we've seen for ages.

Alternate Reality played to death on the Atari 8000, and on the ST, truly incredible games, Phantasia II, Ultima II, Bard's Tale, Rings of Ziffer...

I can't imagine the addictions of these games either. I enjoy the odd shoot 'em up (Rampage on the MSX being one of the exceptions here), but aren't nearly as long lasting.

Dean Southall, High Wycombe, Bucks

X **Saying that games reviews are laid out differently to other magazines appears a particularly modest sort of claim to make. It really isn't the same as saying our approach is better, regardless of whether or not we might believe that.**

So in the true spirit of goodwill to all men, if it caused any offence - tough.

## +3 HELP WANTED

I DO NOT yet own a computer but with the help of your cover feature 'Which Computer?' I decided on the Spectrum +3. Your magazine is very good and is unlike other informative magazines.

Can you please tell me where I can purchase the 'Tandem word processor'? Can you please tell me if Out Run is out on Spectrum and where and for how much I can buy it?

Colin Sullivan, Ailbarn, London NW5

✓ **The nifty little Tandem could be available through most decent independents. Failing that, by contacting Tandem itself on 0532 428301.**

The Out Run is indeed available for the +3. But you're probably better off buying Games, the US Gold compilation featuring the game play simulators: R. Ralston, The California Games and 720 Degrees. It costs £19.99 for the +3, and it'll be a major achievement to find any software seller that isn't stocking it. Otherwise, try US Gold itself on 021 8664388.



## Dear Reader

Why don't YOU make a contribution to the Britain's Well-est, most up-to-the-minute computer forum? Whether it's outrage, angst, humour, pleas for help, or closely-argued opinion, we'll read it and, most likely, print it. You might even win one of our famed mystery prizes. Write to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EQ

## GRAPHIC DETAILS

Not too far back in the dim and distant cold first winter actually I owned a CIBI 120 and disk drive. When I came home from work at night tired and weather-worn, the first thing I looked forward to was a spot of computer entertainment.

Trouble is after flicking through my software for 15 minutes, nothing caught my eye. It just didn't seem worth the effort to boot up. Ghosts 'n' Goblins was the only game I ever bothered with. If only I had an Amiga, I would sigh, every game would be brilliant.

Well it's winter, I've had my Amiga since spring and I've got loads of games but it is still the same old story - well almost. My point is this: games have got to have depth, challenge and strong gameplay. Be it arcade, adventure, shoot 'em up or whatever the machine. Great graphics soften the blow of shallowness but in the end you still end up in the same place: frustrated.

Anyway, I've learnt my lesson. I was going to buy Robot Ranger this month but I think I'll try Nebulus or Galaxion's Donnie instead.

C.A. Hensley, Midvale, West Midlands

✓ **One of the problems in the early days of 16-bit machines is that the programmers and software houses appear to have fallen over themselves in woodwork at the increased graphics potential. More thought was put into the look of games and less into the content. It has improved since then, but coming up with innovative, interesting scenarios really isn't that easy.**

## MSXcuses

Yes, yet another MSXer, and by now you will know there are considerably more than the 14 that had written to you by your 4th issue.

Maybe (unusually for the Japanese) something in the marketing of the MSX standard in this country went seriously wrong. At the same time, the software houses here made little effort to understand and use this system, resulting in a poor supply of a poor standard of software, and some of that being not compatible over the whole range of MSX models. Also, perhaps understandably, those here with vested interest were either very reluctant or in the case of Sir Clive Sinclair very scathing, on the setting of a standard.

Not the incidental near setting of a base-line computer standard by Big Blue in spite of their protectionism, demonstrates how many makers of machine all using the same standard could benefit the consumer.

The MSX-1 Basic was arguably the best of its time and development to MSX2 makes it perhaps still the best around - e.g. the considerable graphic and drawing capability are the simplest to use. And with what other Basic programming can you display a picture from television or video, or plot 256 different colours anywhere on the screen at one time!

Possibly, the real trouble was in not using the MSX-2 for the MSX debut in this country. In '85 the only comparable micro would have been the Amiga 1000, which could not have compared on price or availability, although its performance was potentially much greater.

Meanwhile, as David Webb so rightly comments Issue 5L people have been found to spend more money on software 16-bit outfits instead of being able to update or expand what they already have.

Given that the potential of a 16-bit system can be greater than that of an 8-bit, the sales potential of new and specific 16-bit micro computers has been fully realised, yet the capability of the 280 and of a standard system with less money-making potential has not. The Z80 can address 4MB and there are no 16-bit home business or games programs using that. The Konami MSX cartridge games are quite equal to the graphics of the 16-bit products and the 'Namco products are equal to the music and sound capability of the Amiga 500. You might need add-ons, but not a whole new outlay for a whole new system.

However, accepting that your gentle MSX knocking must be tongue-in-cheek, Express gives excellent coverage of the computer scene and excellent value. D E Booth, Southampton, Hants

X **Don't blame the software houses for the failure of MSX. They're interested in producing games for a sufficiently large installed base. It is not up to them to help make that base large enough to be economically viable to produce games on. MSX 2 may well be a superior system and have other general advantages over existing formats. But if the numbers aren't there and now can't be there, it's all a little bit irrelevant, sadly.**

## BOUQUETS AND BRICKBATS

I have at last decided to put printer ribbon to paper to write to your magazine. I enjoy New Computer Express immensely, the high street shopping part of your 'which computer' article was absolutely brilliant! I agree with your choice of the best buy in computing as the ST is a good buy for the money, guess who has an ST and is glad he got one!

The magazine is generally excellent. Perfect word processing (Issue 2) and the above two, make good examples. The news section is the best I've read and the jargon buster section is fairly useful (That good, eh? - Ed).

Only a couple of complaints though. The words 'reviews are laid out differently to run of the mill computer mags...' annoyed me because I get sick of every new computer mag growing increasingly about 'our reviewing system is the best' when most of the time their reviewing system is just the same old system rehearsed slightly.

The only review system that I think has the right to say this is ACE with its system of assessing long term probability (more about this later) and detailing which computers a letter will be released on and when. I'm afraid your system comes under the rehearsed system but at least it doesn't suffer from the 'Oh dear these colour pictures have led to black and white' syndrome, which severely irritates me.

On to the real reason for my letter. The games that take over your 'the section grabbed me by the shirt and cuffs and said, 'My Man, these are your sort of games'.

I have had large chunks of my life swallowed by this sort of game, 'you get the feeling of getting your money's worth, you don't get the 'Tim stack in this adventure' or 'I can't get past this monster (short explosion of a mother ship)' in addition you also get the adrenaline flowing almost as often as in shoot 'em up and use the mind Dungen Master.

# CLIK.ST

Unit 2 Willowsea Farm,  
Spout Lane North, Stanwell Moor,  
Staines, Middlesex TW19 6BW  
Telephone: (0753) 683965

**WE ACCEPT  
EXPRESS  
VOUCHERS**

TITLE	S.S.P	OUR PRICE	TITLE	S.S.P	OUR PRICE	TITLE	S.S.P	OUR PRICE	TITLE	S.S.P	OUR PRICE
<b>NEW RELEASES</b>			<b>Gambler</b>	24.95	16.50	<b>Phenix</b>	19.99	13.50	<b>Thundercats</b>	19.95	13.50
<b>Hellfire Attack</b>	24.95	17.50	<b>Gambler</b>	24.95	16.50	<b>Pink Panther</b>	19.95	13.50	<b>Tina and Mack</b>	19.95	13.50
<b>Lords Of Conquest</b>	24.95	17.50	<b>Gambler</b>	24.95	16.50	<b>Platoon</b>	19.95	13.50	<b>Trivial Pursuit</b>	19.95	13.50
<b>Star Trek</b>	24.95	17.50	<b>Gold Digger</b>	19.95	13.50	<b>Phenix</b>	19.95	13.50	<b>Turkmen</b>	19.95	13.50
<b>Archie</b>	24.95	17.50	<b>Gold Digger</b>	19.95	13.50	<b>Power Of Radiance</b>	24.95	16.50	<b>Terrorist Encounter</b>	14.95	10.25
<b>Barbie Talk 1</b>	24.95	17.50	<b>Golden Warrior Edition</b>	19.95	13.50	<b>Power Play</b>	19.95	13.50	<b>Terrorists</b>	24.95	16.50
<b>Skylark</b>	24.95	17.50	<b>Guns</b>	24.95	16.50	<b>Proditor</b>	19.95	13.50	<b>Three Stripes</b>	24.95	16.50
<b>Powderhorn</b>	24.95	17.50	<b>Guns</b>	24.95	16.50	<b>Project Stealth Fighter</b>	24.95	16.50	<b>Tour De Force</b>	19.95	13.50
<b>N Mussels Grand Prix</b>	24.95	17.50	<b>Guns</b>	24.95	16.50	<b>Perfect Match</b>	8.99	7.50	<b>Tummy</b>	34.95	26.50
<b>Puffy's Party</b>	24.95	17.50	<b>Guns</b>	24.95	16.50	<b>Plundered Hearts</b>	24.95	16.50	<b>Ultima 3</b>	24.95	16.50
<b>Alien Syndrome</b>	19.95	13.50	<b>Guns</b>	24.95	16.50	<b>Power Struggle</b>	14.95	10.25	<b>Uninvited</b>	24.95	16.50
<b>Armadillo Force Four</b>	24.95	16.50	<b>Guns</b>	24.95	16.50	<b>Perry Mason</b>	19.95	13.50	<b>UMLA</b>	24.95	16.50
<b>Armored</b>	24.95	16.50	<b>Gold Runner 2</b>	19.95	13.50	<b>Quadriplex</b>	19.95	13.50	<b>Ultima IV</b>	24.95	16.50
<b>Armageddon Mail</b>	19.95	13.50	<b>Gold Runner 2</b>	19.95	13.50	<b>Return to Genesis</b>	19.95	13.50	<b>Uninvited</b>	24.95	16.50
<b>Atlas</b>	19.95	13.50	<b>Gold Runner 2</b>	19.95	13.50	<b>Rampage</b>	14.95	10.25	<b>Universal Military Simulator</b>	24.95	16.50
<b>Avail</b>	19.95	13.50	<b>Hollywood Poker Plus</b>	14.95	10.25	<b>Road Blasters</b>	19.95	13.50	<b>Vampire Empire</b>	24.95	16.50
<b>Barbarian</b>	24.95	16.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Rolling Thunder</b>	19.95	13.50	<b>Vermont</b>	24.95	16.50
<b>Barbarian Palace</b>	14.95	10.25	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Vegas Gambler</b>	24.95	16.50
<b>Barbie Talk 2</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Virus</b>	19.95	13.50
<b>Barbie Talk 3</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Wanderer</b>	24.95	16.50
<b>Barbie Talk 4</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>War Games Com Set</b>	24.95	16.50
<b>Barbie Talk 5</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Warlocks Quest</b>	19.95	13.50
<b>Barbie Talk 6</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Warlock</b>	9.95	7.50
<b>Barbie Talk 7</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Where Time Stood Still</b>	19.95	13.50
<b>Barbie Talk 8</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Whirlwind</b>	19.95	13.50
<b>Barbie Talk 9</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Winter Olympiad</b>	19.95	13.50
<b>Barbie Talk 10</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Wizard</b>	19.95	13.50
<b>Barbie Talk 11</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Wizard's Crown</b>	24.95	16.50
<b>Barbie Talk 12</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Wizard's War</b>	24.95	16.50
<b>Barbie Talk 13</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 14</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 15</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 16</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 17</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 18</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 19</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 20</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 21</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 22</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 23</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 24</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 25</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 26</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 27</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 28</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 29</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 30</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 31</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 32</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 33</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 34</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 35</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 36</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 37</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 38</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 39</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 40</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 41</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 42</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 43</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 44</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 45</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 46</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 47</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 48</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 49</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 50</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 51</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 52</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 53</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 54</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 55</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 56</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 57</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 58</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 59</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 60</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 61</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 62</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 63</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 64</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 65</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 66</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 67</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 68</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 69</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19.95	13.50
<b>Barbie Talk 70</b>	24.95	17.50	<b>Hunt For Red October</b>	24.95	16.50	<b>Roadwar 2000</b>	24.95	16.50	<b>Xenon</b>	19	



# DUNGEON MASTER

MIRRORSOFT

Amiga £24.95dk  
Already out on ST

The definitive mix of RPG and Adventure arrives on the Amiga adding a degree of excitement matched only by that generated by its ST parent. We reckon *Dungeon Master* looks like a straight port of the Atari version released in May 88. Does it matter? Or should we expect more from a conversion that could have significantly enhanced all the enduring features of the game, one that's guaranteed great sales throughout the Amiga world?

#### ● GAMEPLAY

You play an apprentice wizard following the footsteps of 24 other adventurers who've valiantly failed in their attempt to retrieve your master's Firestaff from the Dungeons of Lord Chaos.

After a short walk in the labyrinth, you come across portraits of these brave losers and can resurrect four of them to join you in your quest. They act as your agents in so far as they're in the firing line for various confrontations you encounter. Each have specific attributes such as health, stamina and Mana (magical energy), that hopefully improve during gameplay, so you can choose which one is best suited to solving the particular task at hand.

Every injury, use of weapons or magic will result in a corresponding drop in that character's attribute level, so if one becomes too deficient in any respect it's best to rest them for recuperation and put another at the forefront of any encounter. If it's safe to do so, you can speed this up by commanding your entire party

to sleep.

As your mission requires brain as well as brawn, you need to choose a team that combines skills in fighting, wizardry and first aid. In return, you have to keep them fed, armed and equipped with supplies found throughout the maze.

The Dungeon comprises 14 levels of corridors and chambers in which there are a multitude of messages, objects and secret doorways to find, at the same time as dealing with mazes, monsters and mummies. There's also a fair smattering of logic puzzles and riddles which require varying degrees of reasoning. Add to this the need to cast a range of magic spells and you have all the essential ingredients of a large fantasy adventure – so it's a good job you can save your position at any point!

#### ● GRAPHICS AND SOUND

*Dungeon Master's* screens consist of control icons surrounding a central window which quickly redraws when you click on directive pointers. Attribute and inventory information is displayed via pop-up windows. Although effectively conveying the mystery and scale of an immense underworld, against Goldgrind's Domain the visuals look distinctly staid and somewhat repetitive.

So, although they're nicely drawn, there's little in this version's graphics to leave you spell-bound by the superior graphic power of an Amiga. But then it's the strength and longevity of gameplay that's the central factor here. Ambient sound is sparse but spot-effects are great. They add tremendously to atmosphere.

#### ● OTHER VERSIONS

The ST outing is outstanding and has sold in droves – Microsoft claims it's been bought by one in five owners of the machine.

#### ● EXPRESS VERDICT

*Dungeon Master* will surely become the real-time role-playing game against which all others are judged. This is a testament to in-depth game design with enduring consistency rather than audio-visual excellence. What there's little on the market to touch it – well let's be fair, only one other release of note – *Dungeon Master's* a purchase that'll have you labouring through its labyrinths for months and months.



Andy Storer

• You can eat these bread



• Getting the run-down on a colleague's state of health

● A couple of Amiga blitzers hit the headlines this week, both in from the States and both due out soon.

Sword of Sodan brings you glitzy graphics and snazzy sound while *Dungeon Master* – well you must have heard of *Dungeon Master*.

You'll probably sink to the depths of despair with 20000 Leagues while you're submersed in sub-aquatic searches.

But if it's a good old spot of sport you're looking for then there's *Skateball* and *Skate or Die*, two addictive little numbers that make Rollerball look like Tiddlywinks.

On the board game front there's *Archer's* shoot-em-up strategies and finally *Gauntlet 2's* 8-way scrolling maze mayhem. So, no turkeys after Christmas! Which is probably just as well.

## 20000 LEAGUES UNDER THE SEA

COCKTEL VISION

ST - £19.95dk

Due out on Amiga, PC, CPC

Arcade adventures go down a storm with the French, and this one goes deeper than most. Will the conversion of Verne's classic to code plummet to new depths, or surface with major sales? Maybe it'll just drive you round the bends.

#### ● GAMEPLAY

This is dead existential, innit! You play Professor Arcturax, who, along with his servant Counsel and harpener Ned Land, has been abducted aboard the submarine Nautilus by Captain Nemo. Your mission, of course, is to escape from Nemo's clutches, and you do this by saving all the pertinent information you come across in your notebook, compiling a map of the sub's progress, and exploring Nemo's library for clues. But watch out – if you're too curious you get confined to quarters. Cocktel suggests to succeed you'll need a fair degree of reflection, deduction, courage, dexterity, attention and sense of psychology, to which we can only add patience.

#### ● GRAPHICS AND SOUND

Visually, 20000 Leagues is very competent. It has beautifully drawn (though interiors and skiffle use of sub E) screen windows depicting localised information and



• OK, so you're above water, there's no Captain Nemo – but that's the least of your worries

action in animated form. Sound is confined to the spot-effects from various objects encountered and activated.

#### ● EXPRESS VERDICT

A curious release requiring an original approach to puzzle-solving. Besides needing to search for particular information you also have to contend with the sly, moody, of Nemo himself, and in this sense 20000 Leagues is probably unique. The aim is not so much to locate, examine and use objects but to peruse, assess and utilise information. If you're a confirmed adventurer then Cocktel's vision will have you reappreciating the style and content of every game you've played.



Andy Storer

# SWORD OF SODAN

DISCOVERY SOFTWARE INTERNATIONAL  
USA

Amiga £29.99uk

Sodan is the pseudonym of a demo creator from Denmark who has produced some of the best Amiga demos thus far. So it was only a matter of time before he extended his programming skills to writing games. *Sword of Sodan* is the result and is imported by Galstar, Unit 1, floor of 7 Wellington Road, Sandhurst, Surrey GU17 8AH. Tel: (0252) 877431.



• Has our heroine met her match?

## ● GAMEPLAY

*Sword of Sodan* follows the route of the horizontally-scrolling hack-and-slash, playing in a similar fashion to *Barbarian* by Palace Software.

Taking the role of Brodan or his sister Sharden (no software sexism in this release), you'll have to travel through 11 multi-level levels battling against a myriad of hideous and horrifying creatures ranging from pop-jumping punk-dancers (complete with Mexican haircuts) to flying dragon grubs with an unhealthy taste for your flesh.

As well as wielding a sword you'll be able to pick up potions later you've destroyed the odd beastie to give you goodies such as an extra life, power shield (limited invulnerability) and a magic zapier (kills the enemy closest to you).

Wise use of these extra goodies is an important fac-



• These two zombie have just wiped you out

tor in whether or not you'll reach the confrontation with the evil necromancer and topple him from the throne of Lordan.

## ● GRAPHICS AND SOUND

The really impressive aspect of *Sword of Sodan* is its amazing audiovisuals. From beginning to end you're presented with superb images matched by fantastic sampled soundeffects.

When you start each game you're greeted with a brilliantly drawn screen representing the hero and heroine, accompanied by a male voice asking for your choice this male voice acts as a 'Dungeon Master' throughout the game, giving hints and tips as you start each level.

Starting play provides you with the first glimpse of the starting graphics (and sound), as you witness your loath- ing high sprite engage a horde of equally large guards to the sound of 'Hell stranger'. That's just the start,



• This pike-wielding woodcutter is about to get his joint deers

though, because you'll see levels of outstanding audiovisual quality which will leave you gasping and your Amiga's friends green with envy.

The only slight visual quibble is limited number of sprite animation frames, but this is a really minor flaw when compared to the sprites' size, definition, colouring and sheer imagination. Sprites are matched by the impressive backdrops, which are so detailed that you don't notice the game's impeccable programming – including parallax scrolling foreground elements.

The soundeffects are all high-quality samples and consist of the usual 'Aaagh' type grunts and groans complemented by extracts of speech by the aforementioned 'Dungeon Master'.

## ● OTHER VERSIONS

No details of *Sword of Sodan* on any other home micro format are currently available.

## ● EXPRESS VERDICT

*Sword of Sodan* has superlative audio-visuals which give an indication of what the Amiga is capable of when someone actually bothers to delve into its inner depths. What *Sword of Sodan* doesn't have is varied gameplay, though the desire to see the next level overrides this lack to such an extent that you hardly notice.

A touch overpriced, *Sword of Sodan* is nevertheless a worthy addition to any Amiga owner wanting to discover and display its fantastic audiovisual capabilities.



Rik Haynes



• A whole new meaning to 'knightskipping'

## THE ARCHON COLLECTION

ELECTRONIC ARTS  
Amiga • £19.95dk  
Out soon on Spec, C64, CPC



**SHAPESHIFTER (FLY 5)**  
• A near-perfect blend of strategy and shoot-em-up action. This game plays better than it looks.

The Archon Collection is a compilation of Archon (a classic and hugely successful combination of strategy and action) and Adept: Archon II (a slightly less successful follow-up).

### ● GAMEPLAY

Archon places you and a computer-controlled opponent (or another player in a two-player game) in control of the forces of either light or darkness in a fight for ultimate supremacy.

You consists of moving your forces (pieces) across a checkered board with five flashing squares. The aim is to capture all five of these squares, wiping out all the enemy pieces or imprisoning the last one.

When one of your pieces attacks an enemy piece the view of the board is replaced by a fighting screen where you have to battle (shoot it out for the squares).

Adept follows a similar approach but lacks the excitement of Archon due to its stronger strategic flavor.

### ● GRAPHICS AND SOUND

You can see and hear that Archon's roots date back to 1983. It's too primitive by today's standards, with ineffective sprite designs and animations and mundane sound effect.

Adept fares no better — both titles could do with a great deal of improvement in audio/visuals.

### ● OTHER VERSIONS

The other versions look and feel like the Amiga version. It's the gameplay that counts in this release, anyway.

### ● EXPRESS VERDICT

The Archon Collection contains a classic computer game (Archon) which would attain a five-star rating for its gameplay (Adept is slightly less impressive), but is let down by its poor-quality audio/visuals which could and should have been upgraded to battleless standard.

★★★★

Rik Haynes

## SKATEBALL

UBISOFT

Spectrum • £9.95dk, £14.95dk  
Due out on ST, Amiga, PC, CPC, C64

Fancy a game combining soccer and ice hockey with the kind of friendly player interaction to be found in Rollerball? Look no further.

### ● GAMEPLAY

You choose a team of four players to act as reserves for



• You're the one in goal just about to get spread over the back of the net

your assault upon the computer/other player opposition guarding their half of the pitch, in this footie/hockey kick-em-up. There's a whole host of on-pitch obstacles to keep you on your toes, too.

After a while you'll realize that the computer is far more accomplished at ball control than you, and that your only chance is to hit which your opponent at full force whenever he nears the ball. Yup, there's no rules in this game. All you have to do is score four goals, which will see you through to the next level. Which isn't so easy, since your opponents are the meanest sons of bitches this side of 2000AD and only too willing to total you at the slightest excuse.

All this adds up to a game which will keep you riveted just in terms of sheer nonsense alone. Play a game against a friend and it's only marginally less likely to end in bloodshed, since violence rather than sport is the operative mode of the day.

### ● GRAPHICS AND SOUND

Each level is previewed by a brilliant horizontal scroll to show you the state of the pitch. As the pitch usually comprises minimal obstacles of varying descriptions, this is absolutely essential. Animated sprite action is fast and smooth and compares admirably with the best of Spectrum graphics. Sound is confined to the minimal things you've probably heard on Amiga demos.

### ● EXPRESS VERDICT

A frustratingly addictive ending that'll have you coming back for more. Spectrum Skateball will test your joystick and keyboard skills to the limit as you bang, kick, slip and score your way to the top.

★★★★

Andy Storer

## SKATE OR DIE

ELECTRONIC ARTS

PC • £24.95dk  
Also on C64  
Out on Spec Jan, CPC Feb



• Punk skaters get down to some serious bopping

Electronic Arts is risking its reputation on skating being 'in' this week, but that may not matter as C64 Skate or Die was a great success last year. Presumably EA's hoping the same thing will happen with the PC version this year.

### ● GAMEPLAY

Starting in Rodney's Skate Shop, you're given the choice to compete or practice in five events (pool jump, down hill race, high jump, jam and freestyle) in this one or two-player keyboard or joystick-wagging sports sim.

During play you'll need to perform a wide range of skate tricks such as kickflips, aeriels and handplants

(nobody over the age of 15 should know what these tricks actually are).

### ● GRAPHICS AND SOUND

Skate or Die's CGA graphics and PC soundeffects are barely adequate, but the EGA version supports some attractive sprites and backdrops.

### ● OTHER VERSIONS

The C64 version is easily superior to US Gold's 720i-m gameplay and presentation, and includes a superb Rob Hubbard soundtrack on the title page.

### ● EXPRESS VERDICT

While C64 Skate or Die was an all round great release, the PC version suffers from inferior graphics (ie CGA), sound and playability. That said, Skate or Die can provide an enjoyable jam, jump and joust, and is a good game for the younger PC'er.

★★★

Rik Haynes

## GAUNTLET II

US GOLD

Amiga • £19.95dk  
Also on Spec, C64, CPC, ST



• Spot the difference between this and the ST version

Gauntlet II finally makes an appearance on the Amiga, some six months after its release on the ST and about a year after the 8-bit. Has it been worth the wait?

### ● GAMEPLAY

Gauntlet II is a conversion of the fantastic AtariSoft romp, where you take the role of either a warrior, wizard, elf or valkyrie in an epic journey through monster-infested, night-way scrolling mazes, frantically searching for hidden treasures, spells and food (for improving your energy rating).

Each character has its own idiosyncrasies, such as faster movement, better use of magical spells or more powerful weapons. So deciding on the right character is the key to success in the game.

Adversaries ranging from ghosts to insidious wizards will try to deplete your energy rating until you're dead, and on top of this each maze has its own selection of other hazards such as moving walls, electrified floors, and traps hiding more hordes of unfriendly creatures.

### ● GRAPHICS AND SOUND

Gauntlet II on the Amiga is a straight translation from the ST, unfortunately. The sampled sound effects are slightly superior, but the sprites and backdrops are identical.

Overall, though, the audiovisuals do manage to conjure up the essence of the arcade game quite well — although the scrolling is somewhat jerky.

### ● OTHER VERSIONS

ST Gauntlet II is much the same as the Amiga version. The 8-bit versions can now be found on the compilation Gaunts by US Gold, which also includes Out Run, California Games, 2001 and Rolling Thunder.

### ● EXPRESS VERDICT

Gauntlet II is a marvellously good arcade conversion. The trouble lies in the competition. Rainbow Art's Garrison I and II (both Gauntlet-type games) were programmed specifically for the Amiga, and thus put its features to better use.

Still, Gauntlet II does have an edge with its simultaneous four-player option, although it'll cost you around £30 to get fully kitted out with the extra three joysticks (say about £8 each) and the adaptor (US \$5).

★★★★

Rik Haynes



# DOS or trust

**Part VI: The Amstrad army marches on its stomach for fights. This time, as William Poel relates, it was taking on the PC world**

It was the summer of 1985. The PCW was beginning to race away and create one of those spectacular backlogs of Amstrad computer products we've come to treat as part of the marketing campaign. The blackboards at Amstrad were covered in details of shipments on the high seas, and the names of the lucky outlets allocated to receive them were chalked alongside.

The famous 2" disk suddenly became rarer than a sober journalist at a press reception. The wheeling and dealing that went on to obtain supplies of this plastic gold was pretty outrageous, and Amstrad held the whip hand by tying up supplies from only two sources. At one point it was shipping around a million disks a month, and making a seriously large amount of money out of each one, a sum not unadjacent to a pound each in the heyday of the 3" shortages.

It was a classic case of supply and demand, and wouldn't we all be glad if such an opportunity presented itself to get rich quick? Business, was, as they say, good.

Looscript turned out to be remarkably popular with the masses who didn't read computer magazines and so didn't realise that they ought to be finding it impossible to use and positively antiquarian. The early version was fairly quickly superseded by the 1.2 edition, which then remained remarkably unaltered until the entirely new version 2 appeared much later.

However, with that little lot out of the way and now a matter of production and shipping, there was the big trap of 1986 to consider.

## Fiddling STs

During the summer of '85, I managed to talk my way into getting hold of one of the very first Atari ST systems in the country. I connected a tale about being a software developer, and paid over the money when I went to collect it. I promptly set this up outside my office and had a fiddle with the GEM desktop.

At the time, it was the only piece of software around, and the machine was oh so incomplete and unfinished. It was plainly do or die for Amstrad: it had to ship such dreadful examples (even to developers).

## More teapots, Vicar?

A little-known fact is that Amstrad has occasionally dealt in products other than electronics. At one time, it was a major supplier of teapots from the Far East to major department stores in the UK. If the Hong Kong office finds a product with a potential for a bit of profit, then the arch market trader of Mrs Thatcher's vision of GB Ltd is gone for a pinch.

Mr S. came stomping round on one of his tours of inspection. He is fond of strolling around the office, and managers to appear just at the very moment that you might be gazing out of the window and trying to seek inspiration. This time he caught me fiddling with the ST, and declared it to be of no interest as it would not be serious competition for at least two years, if that. And he certainly wouldn't authorise Amstrad to pay for the thing for us to examine and consider.

So I flogged it on (at cost, honest) to a genuine software developer, Micro, which has since made a handsome living from the Atari ST marketplace.

At this point, I guess Mr S. had made the decision to abandon further development of the home computer marketplace with the CPC series (and it still amazes me how much life there still is in that system). But competition for the current ST? You have to be joking!

However, the GEM user interface set us thinking, and when the expected IBM clone project was got under way, we summoned the man from Digital Research (which surely could not believe its luck at being able to get money for the continued sales of the very long in the tooth CPM operating system on the CPC and PCW systems).

The man from DR was somewhat fazed that there was not a single IBM PC or compatible in the company. So he duly handed on AT up in the air, and set up a presentation of DR's attempt to get back at Microsoft for stealing his birthright as universal operating system supplier. In addition to GEM, DOS Plus was mentioned, and at a price that would be hard to refuse.

Discussions with Microsoft at the time were proving (as they always are) to be tedious and unfruitful. Microsoft had yet to be properly chastised by the Breckwood Beattie Boys (I can't remember who coined that delightfully appropriate phrase), I think it may even be the publisher of this noble organ in his formative years as a book on a trade magazine).

However, MS-DOS was an American as apple pie, so when the US market was being weighed up, Mr S. concluded that the only expedient thing was to supply MS-DOS. The deal with DR had

been signed, so the product went along with both operating systems. Most agree that, as ever, the DR product was the more elegant and interesting, but elegant and interesting 'don't put no money in the till, do it?'

So weaving the stick with which he was going to thrash Microsoft into a pulp by launching the machine sporting DOS Plus, Mr S. got Wild Bill Gates and the Microsoft crew to come down to a deal that was acceptable. Mr Sugar unleashed his famous 'tongue o' mine tale'.

## Poel position

I only wish I had still been around to witness the encounter, since on November 14th, 1985, I retired gracefully from the hectic world of Amstrad to pursue the market for CPM software for the PC/XT/AT. Another element instrumental in my decision was a statement from Alan Sugar that Amstrad was not interested in supplying PC software. And since I had put up with the crap end of the business that long primarily to get a crack at the fat pastures of the PC software scene, I felt I might as well sail off, as my small contribution to the specification of the PC1632 project had been made for the year.

The CPM opportunity arose mainly because no one else would take it on, and we had a commitment to do so in order to justify the claims in the ads that the product was indeed a computer capa-

## The Alan Sugar Story



• Sugar: Never mind the 1512's plastic, just look at the sales

ble of running three billion pieces of software.

So, DR was naturally absolutely thrilled to bits to be relegated to the role of the wallflower at the dance by the new, and finally made the most of the opportunity to slap GEM.

The PC1632 project proceeded apace too, as ever, the original specification was hardly trodden in order to ensure that the product turned up on time (and if it didn't, then no-one had any excuse). Amstrad duly denied its existence, the press duly refused to believe it.

I could spit. Yet only had Amstrad done an about face on the statement from AMR that it wasn't going to get embroiled in PC software, after trying to get blood out of a stone when looking for CPM software to run on the PCW, the once utterly joyless task of Amstrad software management was now one of playing the role of



## WordStar is born

The big coup was when Amstrad produced WordStar 1512 out of the hat. I don't think I had better say anything about it for fear of retribution, but suffice to say that WordStar 1512 was the phenomenally successful of a product called Easy that was written in Modula and bought in a while before by Micro-Pe in the US. It bore virtually no resemblance to any of the other products bearing the name of WordStar, and thus presented little in the way of serious upgrade opportunities.

But marketing opportunities is what it's all about at Amstrad, and a nose by any other smell would still be a nose, wouldn't it, did you? And so a product whose total word sales had hitherto been counted in tens, suddenly rocketed to number one volume seller, thanks to the name and the Amstrad marketing muscle. Oh yes, and a small thing called a 'dealer agreement' which required Amstrad dealers to take stock of their software if they wanted to get shipments of hardware...

Lord Bountiful. The world of PC software, utterly fazed by the phenomenon of the PCW, began to form a disreputable queue outside the doors of Brentwood House.

Various big names prostrated themselves at the feet of Amstrad in supplication hoping for a few cruties to tuck into the tills, as it was becoming widely perceived that the Amstrad PC was going to open up a whole new vista of software bounty for the so-called budget market. A few big 'uns notably did not throw themselves wholeheartedly at Amstrad and its marketplace. Lotus remained offish, but I guess that it will shortly have a go of seeing what happens when you give Amstrad a dead product to recycle and reissue. Synaptix I looks to be in the pack here.

Amstrad's set-to with Borland was a brief and allegedly acrimonious affair. That's one of those

things that it would rather not talk about, but Borland once again coined it in after showing faith with Amstrad and the PCW. A just reward for 'being there', and a new lease of life for an otherwise discontinued product.

Development of the PC1512 family was relatively uneventful. The custom chips got ever more complex, but in terms of innovative design these really weren't much scope, with the dictate of IBM compatibility dictating everything about the design.

Sure it could go faster, which it duly did with a novel 8086 design from the arch innovators at MEL, who had previous experience with a PC go-faster board called PC-Express.

Sure it could be the first all in one PC. PSR in the monitor case, this time with an unbridled connector that looked like something connecting two spacecraft after earlier simplicities.

And job in a house. After all, they need not cost the £100 or so being asked at the time, and Amstrad's Hong Kong product duty costs around \$5 to make.

But the incorporation of the VGA screen driver on the main board was perhaps the beginning of the decline in Amstrad computing prepossessions, and the first slip back into the old penny-pinching days of auro. Because this meant that the PC1512 family could not run an EGA monitor and software. And EGA was just coming up to being big business.

## Disunited States

The first foray into the US was with the CPC6128 at the May 85 Comdex Show in Chicago had been a learning experience for all concerned, and nearly as dreadful as everyone imagined. The final fiasco of the exercise was to give Amstrad a low-cost introduction to the perils of doing business in the US which it never forgot.

Amstrad never quite got it together on hard disks, either. Initially a choice an unreliable source (on price, I suppose) and at the outset expected only 15 per cent of machines to be shipped with hard disks. I seem to remember suggesting 'being prepared for 40 per cent in that discussion with the technical director - Guess who was proved right?

Still, the main object of the exercise was to zap the market with price, hype and advertising. And this lot would do nicely, thank you.

## Cobbling nonsenses

The first all-plastic IBM compatible PC and monitor made their inescapable way to an even more crass and tasteless product launch at Westminster. The throng assembling at these events was growing ever larger and more notable, so it's a shame that Alan Sugar was willing to put his nose to the touch of notifiably dreadful old cobblers that provided a PR man's view of a sense of theatre.

However, the product survived even this nonsense, and Amstrad's PC1512 sales literature was superbly crafted and written and included the novel idea that the prices should be hidden 'because you won't believe them'. And, once again, the old Sugar magic did its trick and the public flocked.

Amstrad has managed to create and reach enough to the heart of yet another new market for its products. ●

## NEXT WEEK:

## Let's get serious

With the PPC and PC 2000 ranges, Amstrad aimed to be a plausible business computing firm. That was the theory...

## New Year Superdeals!

**ATARI 520STFM**

Super Pack

**£359.00**

WE ACCEPT  
EXPRESS  
VOUCHERS

Including VAT and NEXT DAY DELIVERY!

Atari 520STFM Super Pack includes:

- ★ Built-in TV modulator allowing you to use the 520STFM with your domestic TV set.
- ★ Built-in 1 megabyte disc drive for fast loading and saving of programs.
- ★ £450 worth of free games software including MARBLE MADNESS, TEST DRIVE, ARKANOID 2, BUGGY BOY, WIZBALL and 16 more.
- ★ ORGANISER Business Software worth £50.
- ★ FREE JOYSTICK!
- ★ And to enable you to have your ST running within minutes, a free fitted power plug!

ALSO AVAILABLE WITH JUST ONE FREE GAME £279

**Commodore**

**AMIGA A500**

**£389.00**

Including VAT and NEXT DAY DELIVERY!

Amiga Pack includes:

- ★ Built-in 1 megabyte disc drive for fast loading and saving of programs.
- ★ FREE TV modulator worth £24.99 enabling you to use the AMIGA with your domestic TV set.
- ★ FREE Game Software worth £230 including BUGGY BOY, MERCENARY, WIZBALL and seven more games.
- ★ FREE PHOTON PAINT graphics package worth £89.95.
- ★ And to enable you to unpack and use your AMIGA straight away, a free fitted power plug!

ALSO AVAILABLE WITHOUT FREE GAMES £369.00

**CREDIT CARD ORDERLINE:**



**0908 663708 9am-8pm**

To order: telephone the credit card orderline above with your ACCESS or VISA number OR make Cheque or P.O. payable to Digicom Computer Services Ltd and send your order to:

**DIGICOM**

170 Bradwell Common Boulevard, MILTON KEYNES MK13 8BG



Full range of Atari and Commodore hardware and software available at discount prices



# First on the Line for 89

This week we make a beeline for Reline's imports and cop a couple of nouveau beau jollies...



## SILKWORM REBEL

A horizontal scroller where you battle your way through fleets of missile launchers, tanks, helicopters and jets. Team up with a friend and take control of a chopper and jeep in another of those deeply meaningful encounters with modern technology.



## ZAK MCKRACKEN AND THE ALIEN MINDBENDERS

LUCASFILM U.S. GOLD  
It's 1997 and aliens have built a stupidity machine that's reduced everyone's IQ to single digits. You play the role of Zak who, appropriately enough, works for a Sunday Sport type rag, and along with a bunch of other nutters zoom off to Mars to sort things out. Full of puzzles, Zak also features movie scenes to update your progress in this wacky arcade adventure.

## Ubi taps a new vein

French software house Ubisoft has at least five titles planned for this year. Distributed by Electronic Arts, Ion Lord, B.A.T. and Final Command all feature equally sexy graphics to those of Nighthunter and Skateball, the first releases (already on their way).

In Nighthunter you get to play Dracula on a disk to damn search for blood in and around

your 100-screen castle. As the blood still belongs to various characters wandering around - well we won't stick our necks out by telling you what you'll have to get your teeth into. Also out real soon is the ST version of Skateball. Suffice to say we've reviewed the Spectry version elsewhere this week so you can check out the gameplay there.

[Left] Skateball on the ST



[Right] Nighthunter on the ST



Oil Empire

## Reline in 89

Rainbow Arts, the Düsseldorf-based software publisher, has announced five titles for release on Amiga, ST, PC and C64 on its Reline label. Dyer ST puts you in post-holocaust mode at the controls of a super-chopper attempting to land robot troops on a Pacific Island, whilst Legend of Faergail finds you role-playing your way through 1,200 rooms set in eight different dangers against 80 types of opponent. In Window Wizard you are to get upwindly mobile through nine levels of animated comic-style window-cleaning, and in Adventures in Arabia you're searching for the treasures of a Sultan with the help of swords and magic.

Best of the bunch, though, looks to be Oil Empire, where you're the President of a multinational oil enterprise. This mouse-driven simulator offers you the chance to buy oil fields, purchase company stock, prospect drillings, order expert reports and hire investigators in a bid to become the new Exxon.



[Above] Window Wizard [Below left] Dyer ST [Below right] Legend of Faergail





**WE ACCEPT  
EXPRESS  
VOUCHERS**

# SAMDALE COMPUTERS LTD

**"Better Than The Best of the Rest!"**

**TELEPHONE: 0621 - 742617**

BARCLAYCARD



**Credit Card Hotline 0621-742617**

**RING NOW!**

**OR CUT OUT AND SEND THE COUPON**

**\* FREE Delivery in UK \* Orders Despatched in 24 hrs\***

**\* Some titles which are new releases may take more than 24 hrs\***

## ATARI ST

Jet	£39.95	Powderpuff	£24.95
Masters of the Universe	£19.95	Puffy's Saga	£24.95
Mobile Edwards Super SM	£19.95	Test Drive	£24.95
Platoon	£19.95	The Flintstones	£19.95
Rail Warriors	£14.95	Dungeons Master	£24.95
Time and Magic	£19.95	Space Harrier	£19.95
Virus	£19.95	Garfield	£19.95
Trivial Pursuit	£19.95	Bubble Bobble	£19.95
Better Dead Than Alive	£19.95	D.T. Olympic Challenge	£19.95
Empire Strikes Back	£19.95	Operation Wolf	£19.95
Flight Simulator II	£39.95	Questions of Sport	£19.95
SeaFire 40	£24.95	Crail Adventure	£19.95
Chess	£24.95	R-Type	£19.95
F-15 Strike Eagle	£24.95	Spotting Image	£19.95
Warlords Tale I	£24.95	Speedball	£24.95
Murdo Madness	£24.95	Guardian II	£19.95
Lords of the Rings	£24.95	F-16 Falcon	£29.95

**20% OFF ALL ORDERS RECEIVED BY JAN 31ST**

IF YOU CAN'T SEE THE GAME YOU WANT RING 0621 742617 AND WE'LL SEND OUR BEST TO GET IT!

Phone 0621 - 742617 FOR FREE PRICE LIST & CATALOGUE

## AMIGA

Pioneer Pegasus	£24.95	Fantasi Formula I	£24.95
Marathon Deciders	£24.95	Arctic Fox	£19.95
Flintstones	£19.95	Fusion	£19.95
Build of Thrones	£24.95	Return to Atlantis	£19.95
Rail Warriors	£14.95	P-18 Interceptor	£24.95
Kangaroo Kid Part II	£24.95	Marble Madness	£19.95
Solar Glider	£24.95	Test Drive	£24.95
Time and Magic	£19.95	D. Thompson's Olympic Chase	£24.95
Winter Games	£24.95	Patrol	£24.95
Thundercats	£24.95	Flight Simulator II	£39.95
Puffy's Saga	£24.95	Deluxe Protopad	£59.95
Shen	£19.95	Deluxe Paint II	£39.95
Scrabble Deluxe	£19.95	Deluxe Paint II	£39.95
Deluxe Invasion	£24.95	North Tale I	£24.95
Championship Golf	£24.95	Wonderous Quest	£19.95
Battle Chess	£24.95	Bombard	£24.95
Garfield	£19.95	Way of the Little Dragon	£14.95

**20% OFF ALL ORDERS RECEIVED BY JAN 31ST**

IF YOU CAN'T SEE THE GAME YOU WANT RING 0621 742617 AND WE'LL SEND OUR BEST TO GET IT!

Phone 0621 - 742617 FOR FREE PRICE LIST & CATALOGUE

## COMMODORE C64

Shoot Out (C)	£9.95	Platoon (C)	£9.95
Baron (C)	£9.95	The American Civil War (C)	£19.95
Soldier of Light (C)	£9.95	Halls of Montezuma (C)	£19.95
Giants (C)	£12.95	Cavemen Ugh-Lympics (C)	£14.95
Arctic Fox (C)	£9.95	Ice Drive (C)	£19.95
Fuel Break (C)	£9.95	Fast Break (C)	£14.95
Mini Put (C)	£9.95	Baron Tale I (C)	£14.95
Baron Tale I (C)	£9.95	Iron Lord (C)	£19.95
Puffy's Saga (C)	£19.95	Machine Madness (C)	£19.95
State of Use (C)	£9.95	Mini Put (C)	£14.95
Garfield (C)	£19.95	Puffy's Saga (C)	£14.95
Flintstones (C)	£19.95	Giants (C)	£14.95
F-15 Strike Eagle (C)	£19.95	Shoot Out (C)	£9.95
Every Second Counts (C)	£7.95	Risk (C)	£14.95
Krypton Factor (C)	£7.95	Better Dead Than Alive (C)	£19.95
Lord Ninja (C)	£9.95	Flintstones (C)	£14.95
		Garfield (C)	£14.95

**20% OFF ALL ORDERS RECEIVED BY JAN 31ST**

IF YOU CAN'T SEE THE GAME YOU WANT RING 0621 742617 AND WE'LL SEND OUR BEST TO GET IT!

Prices for disk versions, cassette versions available for most titles.  
Phone 0621 - 742617 for details.

## MSX

Living daylight	£9.95	Cluedo	£9.95
Indiana Jones	£9.95	MSX Classics	£9.95
Phantoms	£9.95	Secret	£19.95
Elite	£14.95	Recess II	£19.95
Knight Oro	£14.95	Salesmaster	£19.95
Spot	£9.95	Secret	£19.95
Scrabble	£9.95	Tractor	£9.95
Readlighter	£19.95	Venus Strikes Back	£9.95
Penguin Adventure	£19.95	Army Moves	£9.95
Time & Magic	£14.95	Colossus Chess	£9.95
Hunt for Red October	£14.95	Football	£19.95
Hypersports II	£19.95	Goonies	£19.95
Masters of the Universe	£7.95	Gunslinger	£9.95
Monopoly	£9.95	Tenasser	£9.95
World Games	£9.95	Winter Games	£9.95
Atari	£9.95	Chubby Gracie	£7.95
		Comic Bakery	£19.95

**20% OFF ALL ORDERS RECEIVED BY JAN 31ST**

IF YOU CAN'T SEE THE GAME YOU WANT RING 0621 742617 AND WE'LL SEND OUR BEST TO GET IT!

Phone 0621 - 742617 FOR FULL PRICE LIST  
Cassette/disk versions available for most titles

Also Stockists For IBM PC AMSTRAD, Spectrum +3, Spectrum 48K, Spectrum 128K, MSX and the SEGA Games System. Telephone: 0621 - 742617 now for price lists.

**\*SEGA SUPER SYSTEM (3D Glasses + Gun + Game) - ONLY £125.99\***

**Mail orders to: Samdale Computers Ltd, 1a Austral Way, Highfield Rise, Althorne, Essex. CM3 6DN.**

Software Title	Machine	Amount

Total Enclosed £

Name .....

Machine .....

Address .....

Postcode ..... Tel. No .....

**FREE Credit Card '89 Calendar with First Order**  
**\*Cheque or P.O. Payable to SAMDALE COMPUTERS LTD\***

*"Overseas orders add £2.00 per item"*

**"WE GUARANTEE NOT TO Cash Cheques OR Debt Credit Cards Until Goods Despatched"**

# What you see... is what you see

**Peter Worlock continues his guide to understanding printers, and explains how your computer can show you one thing while your printer has other ideas...**

In the first two parts of this mini-series on printers, we've seen that there are a large number of factors to be considered in deciding which printer to buy for use with your computer, and in getting the computer and printer to talk to each other.

And after all that, we've only made a relatively minor achievement: getting the printer to output a file in more or less plain text.

Once upon a time that would have been enough, but no longer: many users want to print graphics, and if you have an interest in any kind of desktop publishing you'll want both graphics and a variety of typefaces, type sizes and type styles.

However, so far as your printer is concerned, there's no difference between text and graphics (unless it's a daisywheel, and for our purposes daisywheels don't count).

We've already seen that when your computer sends out text it's actually sending a string of numbers that form the ASCII code. But when those numbers arrive at the printer, the printer converts them into a series of dots – just like graphics. Everything is dots.

It took computers a long time to catch up with this notion and only the Macintosh and Amiga see

this method as their standard way of displaying things on the screen. However, any computer with a hi-res display can use the same process, and that's what desktop publishing and other graphics software does. The method allows any computer to use different typefaces and fonts as well as graphics.

## WYSIWYG

Queen of Hazzard Tina Turner once told an audience, "What you see is what you see – it isn't necessarily what you get". She probably had something else in mind, but Tina could have been talking about computer printers.

It's obvious when you think about it that the only way of achieving true WYSIWYG is where every pixel on screen corresponds to a single dot on the printer, but that isn't what people mean when they talk about WYSIWYG. Such a printout would be considered very crude.

For example, most cheap dot matrix printers offer a resolution of about 120 to 150 dots per inch. On a standard PC monitor the display area is about 10" wide by 7.5" deep, and it has more dots than computers display about 640 dots horizontally by 200 vertically. That means that the average PC display gives a horizontal resolution of 64 dpi, and a vertical resolution of less than 30 dpi.

This has a number of obvious consequences. The first is that few computers display square pixels, whereas many printers print square dots. Secondly, if you draw a square on the screen, it isn't really square. It may appear square but that's only because the program that does the drawing is making allowances for the computer's display.

You can prove this easily. Using any language you like, draw a square but by using the language's own graphics commands, but by turning



\* "What you see... it isn't necessarily what you get"

on 50 horizontal pixels for the top and bottom sides, and 50 vertical pixels for the left and right sides. What you get is an upright rectangle.

Similarly, when you come to print out a document, you'll get a hopelessly distorted image if you simply print dot for dot. You have to allow for those possible sources of distortion: the computer's display resolution, the printer's output resolution, and possibility of non-square pixels at both the computer and printer ends.

Once again, we're back to the importance of printer drivers – without the right driver for your software and printer, you'll be very lucky if you get anything like a decent printout.

## Font factors

When printing typefaces, slightly different considerations apply.

To begin with, you have to take account of the basic problems outlined above. Most software packages get round the problem by providing two sets of fonts: display fonts and printer fonts.

These are separately (and carefully) designed to minimise the differences that arise from the different resolutions and pixel sizes. However, a further look at the mathematics shows that true WYSIWYG remains virtually impossible.

Suppose you want a 12pt typeface (about a sixth of an inch). If your printer has a resolution of, say, 150 dpi, your characters need to be 150/6 or 25 dots high, 30 fat, so good.

Now you need to design your display font. If your display has a vertical resolution of 28 dpi (not uncommon) your characters need to be 28/6 which equals 4.66 pixels. Obviously, you're not allowed to use fractions of pixels, so you need to use five pixels which means your display font is now slightly larger than 12pt. No WYSIWYG.

(One minor bit of amusing genius in the Macintosh is that Apple designed the Mac to display square pixels of 72 dpi – exactly the right resolution for displaying typefaces and another reason why the Mac excels at desktop publishing.)

This difference between display fonts and printer fonts brings up another consideration. A machine like the Amiga comes with a number of display fonts in different sizes; most new printers come with a number of different printer fonts – but the fonts in your computer will mostly, if ever, match the fonts in your printer.

This can lead to endless confusion, but there are ways round the problem. At the simplest level you can simply fudge – use a display font that looks pretty close to one of your printer fonts and make allowances for the differences.

A better solution is offered by printers that accept downloadable fonts. "Downloadable" sim-

## Technobabble

A weekly assault on computer jargon

RF • Composite • RGB

### RF

The simplest form of display interface, RF is the means of putting a computer image onto an ordinary TV. All of the older 8-bit computers (Spectrum, C64, BBC etc) have RF modulators built in. Most versions of the Atari ST also support this hook for M for modulator in the title, so STM and STFM are OK. The Amiga doesn't support RF – you need a separate modulator (which is now being bundled with the AS501). The catch is that you get a really grotty picture.

### Composite

Composite video is the next step up in display quality. The name derives from the fact that the various bits of the signal – colour, brightness, etc – are all banded up together to form a composite signal. Most monochrome monitors use a composite interface, and some colour monitors like that for the C64. Display quality is much better than RF, but less than brilliant.

### RGB

Derived from the fact that it includes Red, Green and Blue signals, RGB provides much the best picture quality. However, there are now a number of variations in RGB which can be crucial.

Early RGB monitors were digital devices – that is, the shades of colour were increased in fixed (or digital) stages. So they could display only a limited range of colours – perhaps only 16 shades. The BBC Micro, C128 and PC CGA use digital RGB.

A variant on digital RGB is known as RGB2 because it incorporates an extra signal governing colour intensity.

The new computers support a much greater range of colour: 512 on an SE ST, 4096 on an Amiga, and more than 250,000 on a VGA-equipped PC. Digital signals are insufficiently flexible to accommodate this range, so these computers require analog RGB monitors which provide a near-infinite "sliding scale" of colour shades.



# Infuriating!

The problems which make you want to throw it all away  
— and what to do about them

"I was cleaning my disk  
when it accidentally went off  
and killed my files"

**Problem:** Disk housekeeping is one of those chores that needs to be done occasionally if you want to make the most of your disk space and avoid cluttering up disks with unwanted files. Perhaps you simply want to delete a range of old files that aren't needed, or you may want to copy files to an archive disk and delete the originals.

Unfortunately, even experienced users make occasional mistakes, sometimes deleting a file they wanted to keep, or copying one file on top of another thereby overwriting the wrong file.

There are physical accidents too. Disks, especially 5.25" disks, are relatively fragile and if you bend or crush them, or expose them to a magnetic field, you can lose data.

**Solution:** There are a variety of tools available that can sometimes salvage accidentally deleted files, or recover at least some data from a damaged disk or partially overwritten file (if a file has been completely overwritten there's no hope — it's gone forever).

On the PC, PC Tools Deluxe is one of the best tools for recovering deleted files and other damaged data. Others include Miramon's File Rescue Plus, and The Macs Utilities.

Old owners should try K2FOL, whose membership secretary is Jack Cohen, 33 Brimstone Road, Newbury Park, Hord, Essex RG2 7EP. A useful CP/M users group is at 28 Gordon Mansions, Torrington Place, London WC1E 7HF.

There are commercial disk packages like Datafol's Toolkit IV which provide a complete toolbox for manipulating disks. Datafol also produces a similar toolbox for the ST, as does Evesham Micros with its Doctor 57 but these really are dangerously powerful for beginners. A better bet for ST beginners would be HiSoft's Saved!

Amiga owners are very badly served in this area and it appears that if you accidentally delete a file on the Amiga you can forget about it. Although there are disk editors around (that let you fiddle with disks at a very low level), like all such tools they can do more harm than good in the hands of a novice.

There is hope for accidentally corrupted disks, though — AmigaDOS includes a recovery program called DiskDoctor which can usually salvage some of your data from a damaged disk.

• Don't throw it all away  
— maybe your computer just needs  
a little understanding

## Fear and loathing at the disk drive

**Problem:** Unless you're fortunate enough to own a Macintosh or an Atari ST (the nearest thing to a Mac), your computer will require that you master a collection of arcane commands known as the disk operating system (DOS).

At least, if you hope to do anything remotely ambitious with your computer - writing, manipulating numbers or other data, playing music, creating graphics - you have to get to grips with disks and DOS.

Even if you confine yourself to playing games you can only postpone the dreaded moment - eventually you'll come across a game that insists: "To save a game you require a blank, formatted disk". Now you have to format a disk, and that means using DOS.

**Solution:** The ways and means of performing the common DOS activities change from machine to machine, but they all come down to four tasks that you should learn:

**Format.** Preparing a blank disk for use by your computer.

**Directory.** A way of seeing what files and sub-directories are on a disk (usually takes the form DIR, but also DIRECTORY, CATALOG, CAT or FILES).

**Copy:** Moving files from disk to disk.

**Delete:** Removing files from disk (also called "erasing", "scrubbing" and "killing").

Atari ST owners are lucky in having one of the easiest to use operating systems. Games on the ST use icons (small pictures) and menus to perform these tasks and even the most nervous user can master them within a few minutes.

Owners of other machines are not so lucky. MS-DOS is notoriously difficult for beginners, and Amiga owners are - if anything - even worse off (see Working out with Workbench). However, there are easier ways of using DOS on most

machines than the bare-bones systems provided by the manufacturer.

For the PC there are icon-driven systems like GEM and Windows which can make things easier, although there are drawbacks: more disk-sweeping than normal, extra memory overheads, and a longer start-up time. But if you can put with these irritations GEM or Windows make MS-DOS a lot friendlier.

If you don't want the hassle of GEM or Windows, there are alternatives, known collectively as "menu-driven front-ends", which simply means they sit in front of DOS and provide a series of screens for controlling the software.

Two of the best and best known are The Norton Commander, and PC Tools Deluxe which are available from most good dealers and will cost between £40 and £50. There are also similar public-domain programs.

Owners of older machines like the C64 or CPM systems are not left out but your best bet is to try one of the groups who maintain libraries of useful public-domain software. With a few polite enquiries, you should find a lot of menu-driven DOS shells for your machine.

C64 owners are once more best advised to head for ESD - the home of the very useful ESDUG. It has a very strong public-domain library.

Such DOS managers usually allow you to perform the most-used DOS functions without having to remember the correct syntax or the order in which filenames are given.

Some also provide what's called a "point and shoot" facility, allowing you to easily select files from the disk directory and act on them, perhaps for copying or deleting, or for actually running the chosen program.

For beginners, they can make life a lot simpler and reduce the danger of accidentally damaging your data.

8-bit computers like the C64, Spectrum, Amstrad CPC and PCW. Technically, that first is 64K, although it is possible through various fudges to employ more than that. However, you'll find that most of your memory above 64K gets used as a RAM disk.

The IBM PC and compatibles face the same problem, although on a different scale. Here the first is 640K, and while many PCs will take up to 1Mb of RAM, the extra is again used as a RAM disk.

So on these machines, it's generally better to buy a second disk drive. Although RAM disks are very useful, a physical drive is more so.

On the ST the solution is less clear and really depends on what you're using your ST for. If it's game-playing, word processing and other straightforward tasks, a second floppy drive (or a hard disk if you can afford it) is a better choice than more RAM.

If, however, you're into memory-intensive work, for example serious graphics applications, you should probably reckon on 1Mb of RAM as the minimum.

On the other hand, Amiga owners are advised to go the other way. Because graphic power is the Amiga's strength, all Amiga software tends to be memory hungry. The problem is compounded by the fact that the Amiga's operating system is a dog, and its disk drives are terribly slow.

Therefore, extra memory is more useful than a second drive. Even though most games software uses the standard 512K, any other applications will work better with 1Mb, and 2Mb or more is quickly becoming desirable.

## "My printer makes a hash of it"

**Problem:** One of the most common - and most irritating - problems you can run into is getting your printer to properly print the hash and pound characters.

The pound problem arises because of the Americanisation of computers - most computers and printers default to an American character set which includes the \$ symbol, but not the £.

Printer manufacturers got around the problem by providing alternative character sets which do include the pound sign - but instead of substituting it for the \$, they dropped the hash sign.

This means that as a general rule you can have either the pound sign or the hash, but not both. And while that might sound OK in theory, in practice it doesn't work at all well.

First, Murphy's Law dictates that if you want the pound sign, your printer will produce hash-es, and vice versa.

Secondly, there are users who want both. For example, most of us will have at least an occasional need to refer to money in our letters and other documents, but programmers (especially machine-code programmers) also need to use the hash symbol.

Thirdly, a further complication arises when you're using a computer with a keyboard designed for the US market (usually Tandycom PC-compatibles). Here, you may not even have a pound symbol on the keyboard.

**Solution:** Solving the problem has a number of aspects.

First, if you have a pound sign on the keyboard, that key will generate the correct code. If you don't, use the hash key instead.

Second, you need to configure your printer so that it is using the British character set. If, when you want a pound sign you get a hash instead, your printer is certainly using a foreign character set. Refer to your printer manual to find out how to select the British character set, but it usually involves the setting of several tiny switches called dip switches.

Fourth, to use the hash character, you need to select a US character set through software. Epson-compatible printers do this by using an escape code sequence:

CHR\$(27); "C"; CHR\$(10);

and to switch back to British:

CHR\$(27); "S"; CHR\$(10);

(If your printer is not Epson-compatible, you'll need to check your manual for the equivalent command.)

The easiest way to execute the command depends on your machine. On an older 8-bit computer with Basic built in you can send the control string by `PRINT`ing the lines exactly as shown above.

On other machines you can do that, but that will involve loading Basic first. A better idea is to create a similar program in machine-code or any compiled language that will produce a standalone program that can be executed directly. Alternatively, you'll probably find that your word processing software will allow you to send printer control codes.

## Murds in a wuddle?

**Problem:** Another irritating problem often encountered in printing is getting the wrong amount of text on a page. Either your documents appear with scraps of white space at the bottom of each page, or each page becomes slightly misaligned so that the text starts lower and lower on subsequent sheets.

## Growth in the spring

**Problem:** In the first flush of enthusiasm after buying your new computer, all seems well with the world. If you've never owned a machine before this isn't surprising, and if you've just upgraded from an older 8-bit system you'll obviously be delighted with your state-of-the-art technology, with disks instead of tape cassette and enough RAM to make you feel positively agoraphobic about the confines of a 64K computer.

Oddly enough, the problems are worse for owners of machines like the ST and Amiga, and they arise from an old Polish proverb. The fact is, software always demands a little more than your current system can deliver.

On machines like the Spectrum and C64, programmers know what the limitations are, and they work within those limits. That isn't true of the ST and Amiga. Your ST may only have one disk drive, but programmers know you could have three or four. Your Amiga may only have 512K of RAM, but programmers know you could have 8Mb.

**Solution:** Reach for the chequebook.

Actually, that's only half a solution, since - unless you have unlimited funds - you face an instant dilemma. Do you buy an extra disk drive, or more memory?

The answer depends on the computer you own. Many machines are strictly limited in the amount of memory they can actually use: that includes all



**Solution:** This is also caused by a combination of software and hardware.

At the printer end, your printer will expect to be using paper of a certain length, depending on the setting of some dip switches or a single switch on the control panel if your printer has one. Usually the choice of paper is between two lengths giving either 66 or 72 lines per page.

This is a particularly irritating measure, since line per page obviously depends on the size of the type, but it is usually worked out on the basis of six lines per inch. In other words, the printer expects paper to be either 11 or 12 inches long. (More modern printers may be more flexible in allowing a variety of paper sizes, but the principles are the same.)

So your first task is to set the printer to handle the correct size of paper.

Secondly, you need to match up the settings in your software so that, for example, your word processor understands what paper your printer is using. How do you do this varies enormously from computer to computer and from program to program, and it usually involves a lot of trial and error, and a great deal of wasted paper.

## Working out with Workbench

**Problem:** Amiga owners have particular difficulties with their machine's operating system – a big, clumsy and slow collection of commands by the name of AmigaDOS.

AmigaDOS is split into two parts: the CLI and Workbench. The latter is an ice-driven system, supposedly like the Mac and Gem on the ST, but in fact not a patch on either. The CLI is a command-driven system, like MS-DOS or CP/M, but again not as good.

There are problems with AmigaDOS apart from the lack of speed. For example, all other operating systems make the most-used commands (FORMAT, DIR, ERASE, COPY) memory-resident – in other words, they are always available.

AmigaDOS doesn't. Every time you want to perform one of those commands, the Amiga loads the instructions from disk. So unless you have two disk drives, you end up doing an awful lot of disk swapping.

**Solution:** The best answer at the moment is to make use of the Amiga's RAM disk facility to provide the most-used commands in instantly accessible form. Here's how to do it.

1. Make a backup of your Workbench disk.
2. Using the backup disk, boot your Amiga then enter ED by entering at the CLI `ED $STARTUP:SEQUENCE`.
3. Go to the end of the file and before the last two lines



• Amiga 500: Flawed by AmigaDOS

[LineBWT and <endcl> > nft] add the following:

```
WAEATOR RAMC
COPY C RAMC
ASSIGN C: RAMC
CD RAMC
```

4. Press ESC then I and press RETURN

This will save the modified startup file to disk.

Now, reboot the Amiga and a DOS file will be automatically created on the RAM disk, and your Amiga knows to look in the RAM DOS for commands like DIR, COPY and so on.

The drawbacks to this solution are that you obviously lose quite a lot of precious memory, so some applications won't work. Also, every time you reboot your Amiga, the RAM disk is wiped so you have to reload the DOS commands.

The long-awaited Workbench 1.3 will solve the latter problem, but a memory expansion board is the only solution for the former. However, at least some of the time, this method will make your Amiga quicker and more pleasant to work with.

## The Good Life

Here are five utilities that will make life with your computer a good deal easier and less stressful – and even better is the fact that you will usually be able to get them either very cheaply, or completely free through public domain libraries, whatever computer you own. (The first three really need to be used in conjunction with expanded memory.)

### 1. RAM disk

Some computers – like the Amiga and most MS-DOS machines – have a RAM disk utility built-in to the operating system; others, like the ST, require you to get one from other sources.

A RAM disk works just like a normal disk drive, but much, much faster. The only disadvantage is that if your computer crashes you'll usually lose whatever data you had in the RAM disk at the time. But if you use the RAM disk for your application program and your physical disk for data storage, you've nothing to worry about.

A RAM disk can be especially useful on a single-disk computer when making disk copies since it reduces the number of disk swaps needed.

### 2. Cache

A disk cache is an area of memory that is set aside as a large buffer between main memory and the disk. The clever part is the cache manager software which sort of sits in the background, like a supervisor, watching how your programs use the disk.

When the supervisor spots data, or program code, that is being regularly moved between memory and

the disk, it starts to stuff that data into the last cache RAM rather than the slow disk. This can make software that relies heavily on disk usage run many times faster than normal.

### 3. Print spooler

A print spooler is a utility program that resides in the background of your computer's memory. It only comes into action when you try to print a document.

Normally, printing will fully occupy your computer, tying up the machine until the last of the data has been sent to the printer. A spooler takes over management of the printing task, simply sending out data as and when the printer can handle it, but allowing your computer to get on with other tasks.

Spoolers can work from physical disks, but this tends to slow down your machine since it will usually operate in any task while disk access is taking place. But used in conjunction with a RAM disk, a spooler can be fast and highly efficient, getting on with the printing tasks with little or no disruption to you or your computer.

### 4. Pop-ups

Pop-up programs are small utilities that can be used from within other programs. Under WIMP environments like those on the Macintosh, ST and Amiga, they are usually called desktop accessories, but the principles are the same.

There are many kinds of popups, from name and address files, notepads, docks and calendars to complete games. Which you'll find the most useful depends on what you use your computer for, but most come in collections of calendar/notepad/calculator anyway.

Think of the number of times when you're using your computer that you need to make a quick calculation, or check a date. A calculator that appears on the screen at the press of a key, or a couple of movements of the mouse, can save you a lot of time otherwise spent doing longhand multiplication and division, or scribbling in desk drawers looking for your electronic calculator.

### 5. Macro recorder

Macros are like recordings of key-presses which can then be assigned to a single control key. So, for example, you could record a macro of the commands to backup all files of a certain type, and assign that macro to CTRL-B.

Now, whenever you type CTRL-B, your computer will execute the necessary string of commands to make the backup.

Macros have almost limitless uses, and in addition to saving you a lot of typing, they can reduce the need to remember complex DOS commands.

For example, you only need to look up the precise form of a command when you record the macro; after that, you can forget the complexities and just remember the single CTRL-key that executes the command.

PC-compatible owners are the best served when it comes to macro utilities, with commercial products like Borland's Superkey, as well as public domain offerings. Such programs have been slow to appear on the ST and Amiga (macros for mouse-clicking have appeared on the Macintosh so that isn't the problem but if you find one, check it out).

It brings a whole new meaning to 'two-finger typing'.

## "How do I find out more?"

**Problem:** The whole subject matter of personal computing is constantly changing, with new hardware and software products arriving almost daily, and new technologies moving from the research lab to the High Street store. Just when you master one subject, you're confronted with several more.

**Solution:** Somebody once said there are two kinds of knowledge: what you know, and what you can find out. A subscription to New Computer Express instantly makes you one of the most knowledgeable users around because with Express you can find out just about everything.

Weekly news reports keep you right up to date with new developments. Regular technical articles let you build on your existing skills and develop new ones. And Express is the only magazine that caters for the problems of beginners to computing by carrying weekly articles for novices. ●





**TYPEWRITER**  
Assembled in Great Britain by British Labour  
£9.95 cash

riter, J.

Everybody needs a Portable Typewriter these days—students, business men, authors, doctors, law teachers, mothers and the family doctors—in homes convenient for use in consultation, notes, lectures, literary work, etc. Very simple in use and operation and very delightful in use. Weight only 11 lb.—size 12 1/2 x 12 x 5 1/2—very complete with carrying case. For full particulars, send coupon today—or apply to your local Dealer or Salesman.

W. E. G.

## But the problems haven't

Now there's a new choice. One that gives you the quality you'd expect from a studio, at a price less than some people might pay for a word processor! Timeworks Desktop Publisher turns your PC and printer into an instant electronic printshop.

a Guided Tour tutorial to get you up and running in under an hour! No need for sophisticated hardware either. Timeworks Desktop Publisher works equally well on a 512k twin floppy PC with a 9-pin matrix printer, or the latest 386 PC or PS/2 driving a Postscript laser printer. So you don't need to throw your software away when you upgrade your system.

Jim would have loved Timeworks Desktop Publisher. Isn't it just what you've been waiting for?

Clair Mainwaring, *Animal Professional Computing*, September 1988

*"The software supports all the major features offered by Ventura, plus a few more . . . Timeworks DTP seems to represent remarkable value for money".*

Desktop Publishing, March 1988

SOFTWARE PRODUCTS LIMITED

*Timeworks Desktop*  
**PUBLISHER**

Timeworks Desktop Publisher includes the GEM®/3 Desktop.

Timeworks Desktop Publisher is a trademark of Timeworks, Inc. and GST Software Products Ltd. GEM®/3 is a registered trademark of Digital Research Ltd. All other manufacturers' trademarks or registered trademarks are acknowledged.



NCE

Please send me further information on the Timesworks Desktop Publisher.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

POST CODE

Electric Distribution, Meadow Lane, St Ives, Huntingdon, Cambridgeshire, PE17 4LG  
Tel: 0480 496789 Sales: 0480 496666. Softline 0480 496600.  
Fax 0480 496189 Telex 339038 (ESOF G)

## HELP! Sound memory

I am considering buying a sound sampler for my ST but first I'd like some advice. A friend told me that digitised sound needs more memory than a 5205T has - is this true? And which make of sampler would you recommend? Also, how can I use the sampled sounds in my own programs.

Andy Miles, Dartford

• Samplers, or digitisers, work by converting an analog audio signal into a digital form that the

More importantly, it's best to go for a sampler that offers a range of sampling rates, measured in kilohertz (thousands of cycles/samples per second). CD-quality sampling is around 44kHz; so any sampler offering samples of around 40kHz is going to be pretty good.

The catch is that sampled sound eats up memory. Your friend is wrong - the 5205T can happily accommodate sound samples, but the question is how much?

Most digitisers grab 8bit samples: at 40kHz you're grabbing 40,000 bytes per second, so at that rate clearly you're going to run out of memory on a 5205T at about 12 seconds. But similarly, if you halve the sampling rate you double the length of the sample so at

8kHz you'll get a bit more than a minute's worth on your 5205T.

Using samples in your own programs can be quite simple since most local-selling ST packages provide routines you can adapt for your own purposes for Basic, C and assembly languages.

As to which to buy, that's really a question of budget. For £50 you can get Pro Sound Designer from Power Computing/Eidsonnet (0234-273000), but if you can stretch to £70 you could buy the slightly better IS Digitiser from Innovative Software (0903 700304).

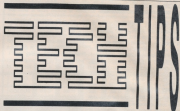
## HELP! File upgrade

I have just upgraded from an Amstrad PC16 to a PC1640. Unfortunately, after getting rid of the PC16 I realised I would need to transfer a lot of data from my old 3" disks to the PC1. I certainly don't want to key it all in again from printouts.

Is it possible to add a 3" drive to the PC1640, and what other hardware/software would I need to accomplish the transfer?

Philip Johnson, Esher, Surrey

• It is possible to connect a 3" drive to



## The place for your questions and suggestions

your PC, but getting MSDOS to recognise the drive is a different matter. Under the circumstances I wouldn't recommend it anyway - you'll be spending money on a completely non-standard drive that ultimately will be more trouble than it's worth.

An alternative would be to borrow a PC16, hook it up to your PC via an RS232 cable link, and transfer your data that way. But that's a lot of hassle since you'd have to find or make a suitable cable.

So... you could give All Downloading Services a ring on 01-994 4559. It undertakes to transfer data between just about all disk formats including PC16 to PC. Unless you've got dozens of disks this will work out cheaper than buying any kind of add-on hardware for your PC. It will also be a lot easier.

## TIP Multi-file movement

If you're tired of spending half your waking hours laboriously shifting those ST files about one by one, there is a solution. Simply select the first file you want to move as normal, then hold down the SHIFT key and click on the others. Hey presto! You can now move up to three million files all in one go.

Stephen Daniels, Ampley, Leicestershire

## HELP! 3D binge

I am interested in the subject of

three-dimensional modelling and ray-tracing and would like to buy a computer system capable of exploring these areas. Can you recommend a suitable system and software for my purposes? Money is no object.

AD McKay, Newcastle upon Tyne

• Money is no object!!  
Have you any idea what a phrase like that can have in a society like ours? Consider yourself lucky we haven't printed your full address.

You might consider a Gray, or a Sun or Apollo workstation - although even if money is no object, the size of your house might become a factor. A better bet might be a Mac II with 24bit colour video board, 19" monitor and 3400b hard disk (a very nice system) which should leave you change out of £20,000.

Or are we really talking a little less money than that? What about a 386 PC with Transputer add-on processor - with timings about £12,500?

Or do you really mean that a hundred quid here or there isn't important? In which case you're probably looking at an Amiga. Although the ST is capable of 3D modelling it has too limited a colour range to be really good, whereas the Amiga's 4096 shades make a world of difference in ray-tracing.

If your unlimited budget will stretch far enough, you'd be well-advised to go for an Amiga 2000 rather than the 500, largely because you'll need expanded memory - as much as you can get - and the 2000 is a more expandable system.

There are a number of suitable soft-

## Win a sub!

We want to hear your problems, but we also want helpful hints and tips. As well as the eternal glory of helping out your fellow sufferers, you could even scoop the weekly best-tip prize of a free 26-issue subscription to this magazine!

And remember, there's no waiting around for monthly publication dates. The best tips, and solutions to your problems will be in print before you can say Alan Sugar.

So whether it's help offered or needed, write to:  
Tech Tips, New Computer Express,  
4 Queen Street,  
Bath, Avon BA1 1EJ.

com-

puter can

manipulate. The

audio signal can

come from any source -

microphone, stereo, TV set - provided it

can be plugged into the digitiser itself.

This latter is a small box of tricks that

usually fits into your ST's cartridge slot.

The hardware is simply a piece of electronics that converts analog to digital -

hence the name ADC, or Analog to Digital

Converter (argue can be easy since sine-

waves).

The clever bit is the software which

uses the digitised signals to drive your

ST's sound chip, or a MIDI device. Some

packages offer a more or less straight

reproduction of the sound, others allow

you to fiddle around with it - speeding up

or slowing down the replay rate, playing

the sample backwards, and so on.

## TIP Better batching - take 2...

Oops! Eagle-eyed readers will no doubt have noticed our over-a-sight bungle last week whereby the Better Batching tip was rendered almost totally unintelligible. Here's what it should have looked like...

Simon Williams' tip in PC Update (Express issue 51) is a good idea, but I think the way he proposes is very time-consuming. It can also only work, as he says, if your files fit onto one floppy disk.

I have a 1512SD to which I have added an external 3.5" floppy drive that I used to use with my Spectrum, and I always like to keep two copies of everything. The batch file I use is similar but makes use of the RCDPY command, which I find is more suited to the task it used in conjunction with the /m and /n switches.

I have included a demo batch file that can be used for hard drive users to show how it is done:

ECHO OFF

CLS

(Users with DOS 3.30 can replace these lines with: @ECHO OFF which I find easier)

ECHO

ECHO Backing up Documents, Texts and Letters.

ECHO Please have disks ready.

@CLS

RCDPY C:\WP\\*.\* DOC A /M/M/Y

IF ERRORLEVEL 4 GOTO DCCS1

(Use of this ERRORLEVEL can enable you to switch disk if the one in drive A becomes full otherwise control passes to the next command)

:TSTS

RCDPY C:\WP\\*.\* TXT A /M/M/Y

IF ERRORLEVEL 4 GOTO TSTS1

:LSTS

RCDPY C:\WP\\*.\* LET A /M/M/Y

IF ERRORLEVEL 4 GOTO LSTS1

GOTO END

(NOTE: Use of the /M switch to pause to enable you to insert disks as required. Also the /M switch as an only to back up files that have been added or altered since the last backup. It also resets the archive flag on the original so that if the disk is A, becomes full then when the batch file begins back it will start with the last file that it could not fit onto the last floppy. The /Y switch checks that the copy is the same as

the original.)

@CLS

ECHO

ECHO PLEASE INSERT ANOTHER DISK INTO DRIVE A:

ECHO

GOTO DCCS

:TSTS1

ECHO

ECHO PLEASE INSERT ANOTHER DISK INTO DRIVE A:

ECHO

GOTO TSTS

:LSTS1

ECHO

ECHO PLEASE INSERT ANOTHER DISK INTO DRIVE A:

ECHO

GOTO LSTS

END

ECHO

ECHO ALL FILES BACKED UP OKAY

R.J. Waller, London

were packages — Sculet 3D Isoun to be upgraded and Animate 3D for animating Sculet 3D images, and Videospace 3D are among the best and best value. And since money is no object, my bet for this consultation will be 10 per cent of the system cost (US\$150 in used lenses to the usual address will suffice).

## TIP

### Open windows

Newcomers to SAs might be unaware of an undocumented feature which can greatly speed up file location. If you've got lots of disks and you want a directory of what's on you put it in, instead of clicking on the drive icon each time to open up a directory window, simply press ESC. The existing window will update with the new disk's directory.

Dave Bentley, Workshop, Notts

## HELP!

### Spotting cards

One problem with a lot of PC software — especially public domain programs — is that they will not work properly with alternative display adapters, especially Hercules cards. I have written a number of programs and I would like them to be able to work with any adapter but I am having difficulty in writing a routine that will identify the display card in a PC.

Can you tell me how to go about this, if possible including a routine to accomplish the task?

Stephen Allington, Derby

It is possible to have your program identify the different PC display adapters but it is not as easy as you might think

as Stephen has discovered.

A slightly tacky and unprofessional solution, of course, would be to ask the user of your software — something like:

**INPUT "What kind of graphics adapter are you using";AS**

and then set up your program accordingly. However, a large number of users haven't the faintest idea what adapter is fitted to their PC.

There is no single register or location

either within the PC or the adapter itself that identifies the video hardware, so to do it in code you have to carry out a range of checks, some of which will identify one particular kind of adapter, some of which merely eliminate several of the possibilities.

Such a routine is much too long to be printed here. However, everything you need to know is contained within a single reference source: The Programmer's

Guide to PC and PS/2 Video Systems.

Written by Richard Wilson and published by the Microsoft Press, this excellent guide will cost you £22.95. In addition to providing hard technical details about the various video adapters, and about the display routines built in to MS-DOS, Wilson's book also provides many algorithms and coding examples of graphics routines, including lines, circles, fills and user-defined graphics. Highly recommended.

## HELP! Illiterate PC

I have discovered by accident that disks formatted on an Amstrad PC or an Amstrad PPC can be read and written to by an ST in GEM as though they were formatted in GEM using either 3.5" or 5.25" drives.

But a disk formatted on an ST in GEM cannot be read or written to by a PC. I just got a "General Failure Error" message. I have tried formatting in different sizes (40 and 80 tracks) on the ST but I just get the same result.

Can you help me by saying why the ST can read and write PC disks but not the other way round? I would like to be able to transfer text files to and from both machines — how can I achieve this?

Karl McAuley, Sheffield

The key problem is that the ST drive is faster than those in PCs which makes the disks mutually incompatible. Although you say you can read a PC disk in your ST you'll probably find that eventually this breaks down as the different speeds puts the disk and drive out of synch.

However, the solution to your problem is a simple POKE to the ST's drive controller. Unfortunately, I've forgotten what the POKE is and I can't trace any of the articles which gave the original information.

So, if any informed ST owners are reading this, perhaps one of them will have mercy on me and Mr McAuley and put us out of our misery.



Amstrad's PPC. Can it swap disks with an ST?

## WORLDWIDE SOFTWARE

1 Bridge Street  
Galashiech TD1 1SW  
Tel: 0800 57004

### COMMODORE AMIGA SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

### PC COMPATIBLE SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

## WORLDWIDE SOFTWARE

49 Stoney Street  
Nottingham NG1 1LX  
Tel: 0522 483722 Tel: 0522 480779

### COMMODORE AMIGA SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

### PC COMPATIBLE SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

## WORLDWIDE SOFTWARE

49 Stoney Street  
Nottingham NG1 1LX  
Tel: 0522 483722 Tel: 0522 480779

### COMMODORE AMIGA SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

### ATARI ST SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

### ATARI ST SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

### ATARI ST SOFTWARE

1001 Battle Mission	17.95
Action Service	13.25
Amblin	13.25
Alien Syndrome	13.25
Barbarian II	13.25
Beast Tale II	17.95
Battle	16.45
Beast Chess	17.95
Bombing	13.25
Bugger Bug	16.45
Bugger Bug	16.45
California Games	17.95
Carriest Command	16.45
Castle Quest	16.45
Castle School	16.45
Cybernet	13.25
Delta Thunder Dynamic Chat	13.25
Double Dragon	16.45
Dragon Ninja	16.45
Dragon Slayer	21.95
Dragon Master	16.45
Election	16.45
Eliminator	16.45
Evil	16.45
Evil's Secret Back	16.45
Exagon	13.25
Exagon II	13.25
F-16 Combat Pilot	19.95
Ferris Wheel	16.45
Flight Simulator	28.95
Football Director II	13.25
Football Manager II	13.25
Games Writer Edition	17.95
Garfield	16.45
Great Unleash Hot Steel	14.95
Gunfire Battle	16.45
Gunfire War	16.45
Heroes of the Lance	17.95
Highway Hawk	13.25
Impossible Mission II	16.45
Impossible Mission II	16.45
Interceptor	17.95
Interceptor	28.95
Lancelot	13.25
Leaderboard Collection Battle	£17.95
Phox of Riddance	16.45

### ATARI ST SOFTWARE

ATARI ST SOFTWARE

### ATARI ST SOFTWARE

ATARI ST SOFTWARE

### ATARI ST SOFTWARE

ATARI ST SOFTWARE

### ATARI ST SOFTWARE

War	13.25
Inting On	12.50
via Cap	14.25
der Blade	14.25
Lead	14.25
and Magic	13.25
Volume 1	21.95
z V	16.45
ize Golf	14.25
inal Military Simulator	16.45
inator	16.45
in	11.25
ly Road	13.25
in	13.25
Le Man	13.25
Europe Scener Disk	15.95
Dreams	16.45
zoo	14.25



*All prices include VAT and Delivery*

1020 STFM latest vme with 1MEG disc drive	£2279.00
1040 STFM latest model, ioe, TV monitor, with Microsoft Word and VFP Professional for only	£419.00
1040 STFM latest model, ioe, TV monitor, as above, with mono monitor	£3529.00
1040 STFM model with 2 software items as above, including some extras, as supplied with above 1020 STFM Super Pack model	£509.00
Mega 312 with 1MEG with 1040 STFM model, ioe, TV monitor	£3949.00
Mega 312 with mono monitor, MS-Word and VFP Pro	£1099.50
Mega 314 with mono monitor, MS-Word and VFP Pro	£1199.50
SM1245 1040 STFM model, ioe, TV monitor	£1799.00
SM1245 1040 STFM model, ioe, TV monitor	£1799.00
STFM 312 package - includes Mega 312, mono monitor, external 1MB disk, 1040 STFM latest model, Microsoft Word, VFP Professional	
Plus ST Publisher's software and 90 days on site maintenance	£1795.00
Atalox DTP system - includes Mega 314, mono monitor, external laser printer, Microsoft Word, VFP Professional	
Plus ST Publisher's software and 90 days on site maintenance	£2795.00
Super External drive 4000 track 330/720 formatted capacity	£1594.95
5.25" Linedrive Super Pack including 5.25" 1040 STFM model, ioe, TV monitor	£794.50
5.25" 1040 STFM model, ioe, TV monitor, control, c/w ST or Amiga cable	£399.50
Philips CM4603 colour monitor c/w ST or Amiga cable	£229.50
Philips CM4602 as above, higher resolution	£249.50
Super High Resolution 5.25" 1040 STFM model, ioe, TV monitor	£299.50

### ***SPECIAL OFFER AMIGA PACK***

Oceanic CC-118 64/128 disk drive for 64/126 with free GEOS software ...	£129.95
Oceanic CC-118 as above with Freeze Machine	£149.95
Freeze Machine complete backup cartridge, with integral reset button	£29.95
LC-19 penemitter 64/128 ready printer inc. 2 extra black ribbons free	£199.00
LC-19 2-colour version of above printer inc. 2 extra black ribbons	£249.00

## Amstrad PC1512/1640/2086



# LADBROKE COMPUTING INTERNATIONAL



## "The Country's Leading Atari Specialist"

### Printers

Sis LC10	£25	Sis LC10 Colour	£219.99
Oliver 120 D	£139.99	NEC 2200	£429
Epson LQ300	£429	Sis LC2410	£458.85
Epson LQ800	£570	Atari SCMS84 Laser	£1299

All printers come complete with cables.

### Disk Covers

Compartex	£3.99	Atari	20mg	£499
Marathon	£4.99	Sigma	20mg	£499
Disk Drive	£2.99	Sigma	20mg	£500
Hard Disk	£4.99	Triangle	20mg	£499
Divison	£7.99	Triangle	40mg	£699

### Hard Drives

### Quality 1 Mg and 1/2 Mg Drives

Why pay less for an inferior Second Drive when you can have a Superior quality Canon 1 Mg second drive for just £194.99!

We are now offering our Atari SP 354 1/2 Mg second drive for only £199.99

### Educational Software

#### Spell and Add with Oscar

Spell teaches keyboard skills, spelling and motor coordination while Add teaches addition, subtraction, multiplication and division.

£12.99 Each

### Utilities

#### Trilogy

Quick Test plus is a Directory Database Compiler. Maintenance is a customised format and copy perfect programme.

Plotting is a full screen picture manipulator which supports GFA, FAST, HIRSH, TURBO and ST BASICs. Compatible with DEGA's, NEOCHROME and AB ANIMATOR. Graphs all part of a picture in all resolutions.

These three programs are offered at one price, £12.99

### AB Animator

Animated Graphics Tool for the ST. Supports GFA and FAST Boxes. Compatible with DEGA's and NEOCHROME. Full Facilities such as Draw, Fill, Grib, Copy etc. Includes FREE basic routines and demo prog.

£14.99

### 520 STFM Packs

- 520 STFM 1 Mb Internal Drive
- Mouse/Keyboard
- £400 Worth of non-volatile software.

£369.99

## Christmas Special Offers

### SPECIAL 1 Mg x 1Mg 520 PACK

Includes 520 STFM, 1 Mg Internal Drive, 1 Mg.

Memory, Mouse, Joystick, £400 Worth of Software.

£474.99

Entry Level Atari Entry Level Commodore  
PCI £449.99 PCI £349.99

Garden Daisywheel  
Printers £169.99

### Quality Disks

3.5" DIS QD 5.25" DIS QD 96 TM

10	...	£14	...	£6.50
10+box	...	£15.50	...	£8.00
100+box	...	£140	...	£70

Phone for special Software Offers

### Master 2 / 4 Desktop Publishing Packs

- Mega ST 24
- Atari Laser Printer
- Mouse
- SM124 Mouse Box
- 3.5" Floppy Drive/10 Mg hard disk
- Fleet Street Publisher



Phone us at for best prices

### Peripherals

Pro Drive Tablet	phone
CRP Tablets	A4 £414
	A3 £515
Image Scanner	£89
Harsh Scanner	£1150
SM124 Mouse box	£120
SC1224 colour	£375
Philips 853 colour monitor	£285
Philips 855 colour monitor	£299
Tv's	phone

Any of above screens height with a complete Desktop F10.

### Upgrades

1 Mg STFM (disk)	£130
1 Mg STFM (win)	£110
STFM Upgrade fitting service	£20

Our Atari trained engineers will repair all hardware to minimum time at competitive rates.

### Quality VHS Video Tapes

Each	£2.99
For 4	£11.40
For 2	£5.90
For 10	£26.00

### Double Drive Pack

- 520 STFM 10 Mg internal drive
- SM124 1/2 Mg external drive
- Mouse/5 Public domain discs

£339.99

## Ladbroke Computing Software Club

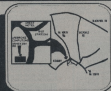
- FREE MONTHLY DISC BASED MAGAZINE
- GUARANTEED 15% DISCOUNT OFF MRRP
- UP TO 60% OFF FUTURE OFFERS
- PD CONCESSIONS FOR CLUB MEMBERS

The Ladbroke Computing Software Club has been improved to bring the customer the best quality service possible. With other clubs the price of the membership is only recovered if the customer purchases more items, but with the Ladbroke Computing Software Club we are offering a free monthly disk based magazine which will contain New reviews, reviews, hints, tips, games, utilities in fact everything you could possibly be interested in. We aim to provide a magazine which will offer all this to both 1/2 Mg ST owners and 1 Mg ST owners.

The club, although primarily software, may offer special reduced prices on selected hardware to club members. However this increase in value has meant that we must increase the membership fee to £15.

Phone, or Write to the address below for an application form.

**Ladbroke Computing International,**  
33 Ormskirk Road,  
Preston, Lancs.,  
PR1 2QP.  
Open Monday-Saturday  
10 am to 5.30 pm  
Dealer enquiries welcome.



### ORDER BY PHONE

Call us on numbers below and pay with your credit card.



### ORDER BY POST

Make cheques PO's payable to Ladbroke Computing International. Send SAE for full catalogue.



### FREE DELIVERY

All goods are delivered free. For Next Day Courier Delivery add £3 per item.



### QUALITY SERVICE

All hardware/software has been tested prior to delivery. There is a 12 month warranty on all hardware and repairs will be carried out free within this period.

all prices include oil & delivery and are correct at time of going to press.



**(0772) 203166 or 21474**

**The  
incredible  
New  
Computer  
Express  
voucher  
scheme can  
save you over**

**£15**

**when you buy  
from adverts  
in this  
magazine!**

**Full details on next page.**

**EXPRESS  
VOUCHER**

**50p**

**EXPRESS  
VOUCHER**

**£1.00**

**EXPRESS  
VOUCHER**

**£4.00**

**EXPRESS  
VOUCHER**

**£10**



### 50p voucher. Valid for orders above £10

This voucher may be used as 50p part payment on any order totalling over £10 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **January 12, 1989**

### £1.00 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **January 12, 1989**

### £4.00 voucher. Valid for orders above £80

This voucher may be used as £4.00 part payment on any order totalling over £80 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **January 12, 1989**

### £10 voucher. Valid for orders above £200

This voucher may be used as £10.00 part payment on any order totalling over £200 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **January 12, 1989**

# EXPRESS VOUCHERS

## How the scheme works

● The Express voucher scheme is a special launch promotion to encourage you to buy *New Computer Express* regularly.

● It offers you savings of up to £15 when you buy goods through the magazine.

● The vouchers are not limited to specific items – you can save on any purchase from one of the participating advertisers.

● Most mail order advertisers in this magazine are taking part in the scheme – just look for this sign.

**WE ACCEPT  
EXPRESS  
VOUCHERS**

● Remember. The use of just one voucher will more than recoup the price of the magazine.

### THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, provided that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say "We Accept Express Vouchers".

2. Each voucher entitles you to a discount at the voucher's face value, provided that your overall order level is **higher** than the figure indicated on the back of the voucher.

3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.

4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.

5. You must fill in the details requested on the voucher.





# 16-BIT SPECIALISTS

**AMIGA 500 SUPER PLUS PACK** **WITH FREE** Television Modulator, Movie, 30 Top Games, Art of Chess, Barbarian, Ruggy Boy, Mercurian, Icarl Warriors, Insecty Flight, and any more! (Photron Paint\*, Amiga Tutorial, Wordbench V1.3, and Amiga BASIC 60Ks, + 2 Manuals.

Only £399 (inc VAT)

**AMIGA 500 ECONOMY PACK** Only £399 (inc VAT)

**AMIGA 500 + 1084 STEREO MONITOR AND SUPER PLUS PACK** ONLY £625 (inc VAT)

**COMMODORE PC-1** With FREE Mono Monitor, Able One-Integrated Spreadsheet, Database and Word Processor, 10 Blank Disks, GW-Basic V2.3, MS-DOS V2.3.

£310 + VAT

## OTHER HARDWARE

Philips CMT 8833 Stereo Colour Monitor inc. Lead Amiga/ST £228.90  
Commodore 1084 Stereo Colour Monitor inc. Lead Amiga/ST £228.90  
Retiavak 2P-180 Printer inc. Lead Amiga/ST £136.90  
Citizen 120-D Printer inc. Lead Amiga/ST £139.90  
Star LC-10 Colour Printer inc. Lead Amiga/ST £299.00  
Star LC-10 Colour Printer inc. Lead Amiga/ST £319.90  
CIS 304 Amiga Cuviana Disk Drive with on/off Switch £39.00  
CIS 304 Amiga Cuviana Disk Drive with on/off Switch £39.00

## PERIPHERALS

Mouse Mat (Scanonly) £2.95 Mouse Mat (Luxury) £8.95  
Amiga 500 Dual Cover £7.95 A500 Modulator/Booster £8.95

## GAMES SOFTWARE

Chronosport (Amiga/ST) £17.95 Menace (Amiga/ST) £11.95  
Lombard Rally (Amiga/ST) £19.95 Thunder Blade (Amiga/ST) £14.95

## AMIGA BOOKS

Microsoft 68000 Programmers Reference Manual (Microsoft) £9.95  
1001 Things to Do With Your Amiga (Tab - NERF) £9.95  
Amiga for Beginners (Abrams) £11.95  
Kickstart Guide to the Amiga (Archie) £12.95  
Risks and the Amiga (Computer) £12.95  
Compendium Amiga BASIC (Computer) £12.95  
Amiga Machine Language (Abrams) £12.95  
Amiga Programming Guide (Computer) £12.95  
Amiga Tools and Test (Abrams) £12.95  
Amiga DOS Reference Guide (Computer) £12.95  
Amiga DOS Inside & Out (Abrams - NERF) £12.95  
Inside Amiga Graphics (Computer) £12.95  
First Book of the Amiga (Computer) £12.95  
Amiga Applications (Computer) £12.95  
Advanced Amiga BASIC (Computer) £12.95  
Amiga BASIC - Inside & Out (Abrams) £12.95  
The Amiga Microsoft BASIC Programmer's Guide (Scott-Foresman) £12.95  
Amiga Machine Language Programming Guide (Computer) £12.95  
Amiga User's Guide to Graphics, Sound, Speech (Abrams) £12.95  
Programming an Amiga Artist (Scott-Foresman - NERF) £12.95  
Using Deluxe Paint II (Computer) £12.95  
Learning C: Phys. Graphics on Amiga & Atari ST (Computer) £21.95  
Inside the Amiga with C (Gems) £22.95  
68000 Assembly Language Programming (McGraw-Hill) £22.95  
Amiga Data Drive - Inside & Out (Abrams - NERF) £22.95  
68000 Assembly Language (Addison-Wesley - NERF) £22.95  
Amiga Hardware Reference Manual (Addison-Wesley) £22.95  
Amiga I/O Reference Manual (Addison-Wesley) £22.95  
Amiga ROM Reference Manual: Exec (Addison-Wesley) £22.95  
Amiga ROM Reference Manual: System (Addison-Wesley) £22.95  
Programming the 68000 (Sybex) £22.95  
Programmer's Guide to the Amiga (Sybex) £22.95  
Amiga Programmer's Handbook Vol 1 (Sybex) £22.95  
Amiga Programmer's Handbook Vol 2 (Sybex) £22.95  
Amiga System Programmer's Guide (Abrams - NERF) £22.95  
Amiga ROM Kernel Ref. Manual: Lib & Services (Addison-Wesley) £22.95

**OTHER BOOKS AVAILABLE ON REQUEST - PLEASE TELEPHONE 0706 43519**

\* Photron Paint may be replaced with either Deluxe Paint 1 or Game at any time.

All offers are subject to availability and may change at any time. E & O

Add £5 for Two Day Courier Delivery for All Hardware Items. Disk Drives, Software and Book prices are inclusive of P&P.



ACCESS/VISA OR MASTERCARD  
ORDERS/ENQUIRIES TEL. 0706 43519

**NEW SHOWBOOM NOW OPEN!**  
(Please First please)

**WE ACCEPT EXPRESS VOUCHERS**

SEND ALL MAIL ORDERS TO:

15-16 South, Dept. J1, 24 Brookfield Lane, Rochdale, Lancs, OL11 8JL

Circle and have a Demo at: 1st Floor Draper House, 160 Yorkshire Lane, Rochdale, Lancs. Hours of business - 9.30 am to 6 pm Mon - Sat 24 Hours Answerphone in operation outside hours

# YOUR FORMAT

MACHINE-SPECIFIC COLUMNS

ST

## This is skills

Pick up almost any computer magazine and you will find at least a story or two about ST. What is it that has obsessed people with this operating system? It's slow, clumsy? Not to mention messy, space wasting and very unfriendly. Just forget about it. You really don't want it.

Obviously these are people - sometimes - interested in the system, as publisher Prentice-Hall has unveiled ST Mica, a unique software review of Unix. Whatever can? This release 5 on the 2017 Mica is embarrassingly close to V7 Unix: it shares the same hierarchical file system, supports full multi-tasking, has the same style CLI, even identical system calls - there are no end of similarities. Unlike Unix, however, Mica comes complete with all the source code, requires far less memory to run and doesn't require silly amounts of storage space. In short, you can use it on a 520 with single ended drive.

A Kernighan and Ritchie compatible C compiler, full screen editor, over 60 utilities and 100 libraries procedures are provided. A few of the Mica commands include at, cd, cmp, cp, dd, dt, gpr, gpc, gtr, mv, rm, rmt, rmt, rmt, rmt.

Asaph! Doesn't it make you want to use it? You can't actually want to use a system that uses operations with acronyms that make no sense whatsoever? There is a perfectly logical reason for Mica, despite my negativity and savings. When AT&T first licensed Unix, it was widely studied in operating systems courses at universities. The advent of Unix version 7, AT&T

manual and £30.94 for the disks - all size of them!

## Snippets

Onlook for the ST: Capital Computers of Tallinn, Edinburgh, has a graphics device (necessary for mixing computer images with TV or video images) that will operate on any ST.

Currently, the unit consists of two EMC systems, video in and video out. There's also a switch in the back to toggle between normal and graphics mode. It costs £250 for a non-licensed quality device or around £300 for the professional system. Details from Capital on 01-238-4412.

**Twenty Book:** Practical Solutions in the States recently discovered a novel which, when fitted, gives any ST stereo sound out.

## New Wordup

AD Marketing, from New Dayton in Midvale, is now distributing Neopost's Wordup Version 1.3 word processor. Briefly, Wordup is £500-based which means it can cope with multiple lines, sizes and styles. Proportional, monospaced, bold, light, italics, outline, subscript and superscript text styles are possible.

GEN MIO graphics can be imported, resized and text made to automatically flow round the images. As 600x printer fonts are required, printed output is very impressive (although very slow).

On to the new bits. Wordup 1.3 is better, the graphics handling is better and the manual has increased three-fold. Three disks are supplied which contain printer drivers for numerous makes of printer, monochrome and colour resolution files, and various other bits and pieces.

Incredibly, all the files are archived (compressed) and it takes about 30 minutes to install the system for the first time. Wordup costs £525. Further details from NMI on 0895 444432.

put. The sidestep entrapment, which has been shown, fits to the H2011 port. Either two or three segments can be attached. This for games, data or networked.

The gadget costs \$49.95 and is available from Practical on 016 1602 8849/63. Frankly, the DF method described in the January issue of ST/Amiga Printer seems a better deal.

## Grail Quest

Here you go, the solution to Microsoft's maze-based adventure Grail Quest. The first screen shows a barren bag of gold. It's in the bushes, but don't pick it up yet. Instead, confront the dragon at the next screen with magic. Spin its life. Go to the castle and kill the golden in the entrance. Sleep on the street for three nights when you're inside the castle. On the third night a man will throw up to you, give him some of the new bread in the bottle. The bottle, incidentally, is in the window at the top left corner of the screen. Go back to the forest and give him the gold from the bush. Return to the castle. Leave Riller at the inn while you sleep in the street. Return to the forest. Follow the hooded man to his house and cure his mother. Return to the castle and go to the sewer level. The magic on the bottle, but says his life. You'll be taken to the world of enemies where you must find the Grail. In the forest you'll see a man crawling on the ground. Cure him then go west to a pit in the ground. Enter pit and approach the light. And that's it.

Richard Mortimer



designed to pull the plug on education. No more teaching of Unix in the classroom - in particular so much backing at the source code. Since that time professors and students haven't had any decent OS course to take with. Hence the arrival of Mica, which is designed for people, students, mainly who are interested in legally obtaining and studying the source code of a Unix-like operating system. So there you go.

If you're interested you can get the package from Department 35, Prentice-Hall, 65 Wood Lane East, Hemel Hempstead, Herts, HP2 8AG (0442-231155). It costs £30.76 for the

Next week Express has a new ST expert. You can get in touch by writing with suggestions or tips to Club ST, c/o NCE, 4 Queens St, Bath, BA1 1EQ.

# PC UPDATE

## Batch time

There are all sorts of interesting things you can do with more than the DOS command supplied with your PC. All you need to use the following is DOS with a session number above 2.1 and an editor to create the following batch file and data files.

The technique involves piping that is directing output from one command to something other than its default device. Perhaps the simplest example is something like:

## Bit for stats

So, farewell then, 1985. Now you've seen the New Year in and got your head back together, what better to set you off in 1986 than a quick thought for the statisticians of the world. What a fun file it is with modern statistics. The first of a Chi square test, the binomial test as you come to the conclusion of a Kolmogorov Goodness of Fit test. If you've ever the slightest idea what I'm on about, then you'll probably be interested in a clever little package that passed through my hands recently.

Called JELSTAT, it comes from JEL Computing and claims to take most of the hard work out of analysing collections of data. Having played with it, but not used it is unfair yet, it seems there's a lot ground to its claim. The package will take sets of data and perform all the regular statistical calculations on it, as well as performing many non-parametric tests. These are the ones with the curly names like the Mann-Whitney U test and the Spearman rank correlation coefficient. These are the kind of tests you will find very useful. If you have a use for them, in other words, this is a package for specialists, but those specialists are likely to find it indispensable.

Even though it probably has a small potential audience, the package is well designed, fully menu driven and includes an excellent graphics output option. It will draw line, bar and pie charts and dump them to any Epson-compatible printer. The package is well worth a look if even part of your job is analysing data. Further details and a spec sheet can be had by calling James Larty on 0472 693742.

This line will tell DOS's directory command, but instead of displaying it on screen, the > piping directive will direct it into a file called dir.dat. If you want to go to check that the directory display is really there with the command:

type dir.dat

You can pipe input to a command as well as output from it. This ability can be used to automate commands which would normally demand input from the keyboard. Create a small data file called CR.DAT by typing:

copy con CR.DAT (Returns)

[F5] (Returns)

The key values in square brackets indicate single key presses - don't be tempted to type [RETURN]. The file CR.DAT now contains a single carriage return character and can be used to replace a keypress in the data command, for instance, with the command:

date < CR.DAT

Input for the date command is taken from CR.DAT, which is the same as pressing RETURN to override the input of a new date.

Now for the really interesting bit. Use a

text editor to create the following batch file - call it **TIMER.BAT**:

```
echo off
echo Start time:
time < con&1 find "C"
%1 %2 %3 %4 %5
echo Finish time:
time < con&1 find "C"
```

As the filename suggests, this batch file is in fact a timer, showing the start and finish times for just about any command you want to tack onto the end of it as a parameter. The two lines beginning time use the redirection of input from the CR.DAT file, and the first command on the end effectively shows away the timer new time required, complexity. The line in the middle, composed entirely of 5 parameters, allows you to enter up to five commands to be timed. Try:

timer dr

and the program will print start and end times for a DOS command. The batch file could be very handy for timing program benchmarks among other things. The technique was taken from a very interesting MSDOS book called Supercharging MSDOS by Van Mollenstam, published by the Microsoft Press, which should know what it's talking about, at £17.95. The ISBN number is 0-914645-95-1.

## Silly games time

There have been all the few silly games around recently. Since the sad demise of Bitty Mike and Douglas Adams' recent interest in things terrestrial the computer world has become a straighter place. Localities, though, seems determined to add their own bit of lunacy to the world of PC games with The MacKenzie. This is a point and shoot adventure (that is, you don't have to type boring commands like 'Get lost', you can point to 'get lost' on a screen instead). The basic storyline is that silly aliens have taken over the world and are trying to make the entire population as silly as them. To give you a feel for the game you've equipped with a complete Goacher MacKenzie kit, complete with bushy eyebrows.

As well as the disk (both 5.25" and 3.5" formats, which is a plus point for Localities) you get an instruction sheet, set of bonus cards (these disappear, if you think it's English) a booklet and a copy of The MacKenzie magazine, the rag that Zak wrote for. This is filled with news items which the Standby Space would be proud of. Indeed some of these are very reminiscent of Sport headlines. How about 'Alien Amusement Park Found on Mars' or Two-headed Squid Attacks Two Computers At Once' or 'T. Tarned a Mercedes Into A Space Shuttle'. Zak MacKenzie is from Madmagazine and costs £19.95.

Simon Williams



## FABRIC RIBBON RE-INKING SERVICE

NO NEED TO BUY A NEW RIBBON WHEN YOUR PRINTER GOES PALE!

ALL TYPES OF RIBBON RE-INKED  
(AMSTRAD, BROTHER, EPSON, STAR, CITIZEN ETC)

# Only £1.45 per ribbon

Re-ink like new

## SAVE £££'S!!

MONEY BACK GUARANTEE - QUICK SERVICE

Post used cassette with payment to:

S + J Brothers

Hillview Post Office, Aylesbury, Dunbartonshire G83 0QD  
(0389) 52660 (24 hours)



# NSG

## NORTHERN PC SOFTWARE GROUP

Collieston, Aberdeen, AB4 9RT.

Telephone and Help-Line: 035857-336

NSG offer to All Amstrad and IBM Compatible Users a Personal Service. We also regularly visit to REWORKERS to COMPUTING. OUR NON PROFIT MAKING SERVICE'S INCLUDE THE FOLLOWING:

### PUBLIC DOMAIN:

Five programmes available on 5.25" and 3.5" disks.  
IBM Compatible Manual is offered for ALL USERS, on 5.25" Disk at a purchase of £3.50 per Disk. (No VAT is Paid, we take the largest PD Library in the North of Britain, which is being increased monthly.)

### 24 HOUR HELPLINE:

Use this Service at any time of Day or Night for instant assistance to any Member. Especially valuable to newcomers to these excellent PD programmes. Help available on any aspect of Computing, at all times.

### OTHER SERVICES:

INFORMATION, INFO, COMMS, MICROPHONE, DISK EXCHANGE, REVERSE ENGINEERING, CONSULTANCY.

### SPECIAL INTERESTS:

Special Interest Groups encouraged. Share your expertise with other enthusiasts, through our News Letter.

Send for information today without delay.  
This is a service for all beginners, and the enthusiast.  
Modest registration fee £20.00.  
Includes credit for £10.00 PD software.  
Special terms for OAP/students/unemployed.

## DUST COVERS FROM BBD THE PROFESSIONAL OPTION

BBD Dust Covers offer a wide range of Dust Covers made from best quality proofed Nylon. Treated with a flame retardant and an anti-static inhibitor, the covers can be washed and ironed and will never crack or fade. Each cover carries an unconditional guarantee.

COMPUTER EXAMPLES		PRINTER EXAMPLES	
Amstrad 2086	£10.00	Amstrad DMP 3150	£5.00
Amstrad 464/6128	£8.00	Epson FX 800	£5.00
Amiga 500	£5.00	Epson LX 1050	£6.00
Atari ST/1M	£5.00	Amstrad DMP 4000	£5.00
Archimedes	£10.00		
Commodore 64/64C	£5.00		

Prices include VAT and Delivery

BBD Computer Dust Covers,  
The Standish Centre, Cross St,  
Standish, Wigan, WN6 0HQ

Tel: 0257 425839 - Ext. 41

Fax: 0257 423909

Access and Visa Welcome

## JOHNS COMPUTER STORE

### HOME AND BUSINESS SYSTEMS

Full Range Of Commodore PC's In Stock  
Commodore Amiga A500 - £379.00 inc VAT  
Atari 520 STFM Super Pack - £359.00 inc VAT

Phone for details of all stock



JOHNS COMPUTER STORE  
83 GRAHAM STREET, AIRDRIE, SCOTLAND ML6 8DE  
TELEPHONE: 0236 47097

## HOME & BUSINESS COMPUTERS

## HARDWARE

Start STFM Super Pack 1 Meg Internal Drive	
& 21 Games - ST Organizer	
Joystick & Mouse - callers only	\$339.00
counter	\$343.00
Amiga 520 STFM with 1 Meg Internal Drive	\$279.00
Amiga 5500 - Modulator, Photon	
Paint + 35 Games inc Buggy Boy	
Barbarian, Whizball, Thundercats and Mercenary	399.00
Star LC10 Colour Printer	\$259.00
Star LC2410 Printer	\$339.00
Citizen120D Printer with lead ST/Amiga	139.00
1 Megabyte Drives ST/Amiga enable/disable	99.00
Memorytech DS/DD per 10	19.00
Amiga 5500 + Commodore 1084 colour monitor	589.00
Amiga Business Pack (phone for details)	775.00
Commodore 1084 Colour Stereo Monitor	
including lead for ST or Amiga	\$229.00
<b>Philips 8833 Colour Stereo Monitor</b>	
inc. lead for ST or Amiga	\$229.00

MIDI SOFTWARE AVAILABLE - PLEASE PHONE  
AMIGA SOFTWARE

The Works (Scribble, Organize, Analyse).....	E69.00
Studio Magic.....	E85.00
Deluxe Video.....	E48.50
Script 3D.....	E39.00
Turbo Silver.....	E115.00
Deluxe Productions.....	E115.00

Unit 17, Lancashire Fittings, Science Village,  
Claro Road, Harrogate, North Yorkshire, HG1 4AF

All prices include V.A.T. & Postage. Courier Extra

All prices subject to change without notice

---

---

## YOUR FORMAT

## AMIGA BLIT

## Arriva hits the road

With the recent announcement from Atari of a forthcoming ST laptop machine, it seemed inevitable that eventually Commodore would follow suit. The first Amiga portable has finally arrived from

Wait a minute - this isn't a Commodore machine!

It's true, the first Amiga portable has arrived, yet the machine is not a Commodore computer. It is produced by an American company called More Momentum. Is the Amiga set to spawn third-party clones a la IBM PC?

The portable Amiga, called the 'Journey Man', comes complete with two 3.5" internal disk drives, 1 Megabyte of RAM as standard and an internal 7" amber monitor. Space is also available for a 5.25" hard disk or floppy and all the Amiga's I/O ports are included. Wow, that's going to be one heavy portable!

Whether you'll be able to buy the machine in this country is unknown - it seems unlikely as Commodore is rumoured to have plans to produce its own portable.

### Traders Delight

This week's tips are decidedly above board. No underhanded cheat modes, just good old fashion strategy. I'm afraid.

The game subjected to the acid test (or should that be Acidlined?) this week is Firebird's space trading classic *Elite*.

Below is more of a reference chart for use when you are deciding where to buy and sell goods on the universal stock market.

ITEM	RYAT	SELL TO
Food	Poor Agricultural	Rich Industrial
Textiles	Rich Agricultural	Poor Industrial
Radioactive	"	"
Slaves	Rich Agricultural	Any Industrial
Liquor/Mono	Any Agricultural	Rich Industrial
Luxuries	Rich Industrial	Any Agricultural
Religious	Corporate and Democracies	Anarchic World
Computers	Rich Industrial	Rich Agricultural
Machinery	Any Industrial	Rich Agricultural
Alloys	"	"
Weapons	Poor Anarchic World	Rich Agricultural
Fuel	Any Agricultural	Any Industrial
Minerals	Any Agricultural	Average Industri
Gold	"	"
Platinum	"	"
Gen-Stems	"	"
Alien Beings	Collect Things	Any Agricultural
Medicines	Rich Industrial	Poor Agricultural

\* Not worth dealing with

Message Port

We've already seen the machine promoted heavily as a Desktop Video Workstation, a policy that has undoubtedly paid dividends, and the company seems set to unleash the Amiga in the next big vertical market, that of Desktop Publishing.

But what are the Amiga's chances of repeating the success the machine is now enjoying within the video industry? Unfortunately, the answer is not that clear cut. While some industry specialists see the Amiga as a definite contender, others feel the machine delivers too little too late.

If you have any comments about any issues raised within this column or the Amiga scene in general, why not drop me a line? Equally, if you have any tips that will help other readers get the most from their Amigas then I'd love to hear from you. Write to: AMIGA BLITZ, New Computer Express, 4 Cannon Street, Southwark, London SE1 1JQ.

The current market leader where Desktop publishing is concerned is the Apple Mac, with the PC compatibles nursing a close second. So what can the Mac do that the Amiga can't do better?

To this question, I'd love to say "nothing," but unfortunately, try as I might, there is just no escaping the fact that DSP software on the Amiga is not a patch on that, no offer on the Mac. If you take one look at packages such as QuickPhone (as used to lay out Express and all of Future's other publications) or PageMaker II, I'm sure that you too would grudgingly come to the same conclusion.

What is really needed if the Amiga is to make it within the Desktop publishing market is a program that plays to the Amiga's strengths. The Amiga has colour; it has a very powerful blitter that can even give the Archimedes a run for its money; so why aren't these seemingly major assets being used?

The only package available for the Amiga that not even start tapping the machine's superior capabilities is Gold Drib's Professional Page. While Page undoubtedly makes full use of the Amiga's colour capabilities, the program is noticeably slow.

A plea to software houses: drop limitations, drop RISC and start letting the hardware do it. It's all very nice being fancy with your custom requesters and multi-reboot, animated gadgets, but what DTP applications really require is speed? You have at your fingertips one of the most powerful graphic engines on the market which, if programmed correctly, could leave even the powerful Macintosh II for dead.

## Delane baroness

Thinking about buying yourself a decent paint package? If the answer is yes then there is no better time than now to dig deep and look out the shades, as Electronic Arts has just announced a new series

The bundling includes the most popular paint package in the Amiga Deluxe Paint II as well as the companion product, Deluxe Print, all for the same price as Deluxe Paint II if bought separately.

Deluxe Print allows you to design signs, business letter heads, advertisements and a whole host of other items of stationery. Any art produced using Deluxe Print to can automatically pulled into your Deluxe Print productions. Further details are available from Electronic Arts on 0783 464665.

James McIlroy

[illegible]

**Amiga takes on the Mac**  
At last Commodore seems to have finally figured out which markets are best suited to the Amiga.



• Apple's Macintosh. While not as powerful as the Amiga, just look at all that lovely software!



## Magic magnetic mag

Here at SPEX, independent publications are as welcome as commercial ones, although it's unfortunate that their prices are rarely as big.

A mag which is of high enough quality to be mentioned for free, though, is *Outlet* from Chesson software. It's a Plus D, Dimple, Open, Mandyline and tape-based read which picks up a pleasing comment last week after a reader wholeheartedly recommended it.

If you're one of those people who think too much coverage is given to about the given bits of software, i.e. games, then this could well interest you, as the majority of its content is devoted to the more serious side of the Spectrum.

Each issue runs to about 250K of program, letters, articles, editorial sections and utilities, all accessed from a menu on the disk versions or leading neatly on tape.

To be entirely serious a tape or disk mag really has to make good use of its format to compensate for the inconvenience of loading problems and not being able to read it in the bath, for example. *Outlet* does that admirably with a variety of snazzy effects and attractive screens. The programs are of a high standard - not up to commercial efforts, but easily better than the loads of rubbish which littered the computer press a few years ago. They range from useful utilities you won't find anywhere else, to graphics demos and simple games. Sandwiched in between the programs are fairly interesting articles, a letters page, notice board and news section.

The whole catalogue has a classy atmosphere, and it manages to come across seriously without being too boring. In short, it was impressed. Coming from a cynical games freak who wouldn't know an algorithm if it performed an exotic dance for him, that's a huge compliment.

I particularly recommend it to Plus D, Mandyline, Open Discovery and Dimple owners, who get little else for their systems these days. Apart from that, anyone into this Spectrum's serious side will love it.

If you're not yet entirely convinced, Chesson supplies a free sampler to anyone who sends a blank cassette or disk, a service which isn't actually available at the time of writing, though.

As a special introductory offer an issue of *Outlet* will set you back £2.00, with Chesson providing the disk or microdrive cartridges. All tape versions are £2.75. (Strange as it may seem, *Outlet* is not available on +3 disk yet, as some have been numerous problems getting disk access in MSX Basic.)

The address I suggest you write to immediately is: SPEX, Longborough Road, Bristol, Leicesters LS4 4NU.

## Free publicity

New text, I don't know about you, but I'm a sucker for any magazine which sports a FREE gift on its cover. This fact no doubt explains the huge collection of computer magazines

about my bedroom.

The three Spectrum-specific titles have crept into the old FREE gift stack, in a big way. Nearly as many appear on the shelves without a tape secured to the front. A rubbish cassette war has developed in recent months, with each mag attempting to outdo its rivals with increasing numbers of programs rewarded onto their tapes. Four titles are now divided two cassettes on its front. What's next? Two with three live tapes a whole magazine? I'll tell, but not one to look a gift cassette in the mouth - it's good to see them offering such excellent value for money.

## Dogged play

Box from Marsch, is an addictive little shoot-em-up I've been playing for days. It's got periods of time (150 weeks, I think) that you have to go. Or, what a coincidence! Pretty convenient, too, as it seems to be the only thing I've got any time for.

## Speccie sell-out

In just columns my criticism of *Amstrad* has been downright mild and noisy. My most venomous attacks were directed at the pricing of our computer. To clarify old me, £140 and £199 seems a lot to pay for what is basically an eight year-old machine.

My opinion doesn't count for much, apparently. If *Spectrum* sales this Christmas are anything to go by, the *Amstrad* is a sell-out. No exact figures have reached me yet, but initial impressions are very encouraging. The local Discos sold out of both +2s and +3s within a good space.

Hopefully, the +3 sold in sufficient quantities to cause some quality software writers specifically for the machine, rather than just more cassette versions ported onto disk.

As any regular reader will have guessed by now, I'm a confirmed Spectrum freak (didn't know about the Spectrum bit - £2), but even one as loyal as me was more than a little surprised at the Speccy's good showing this year. Naturally, I think our machine is the finest in the world, but when in a screen-to-screen contest with an ST, Amiga, or C64 for that matter, it does tend to live up to its 'turner' tag. 16-bit entertainment software is just so much more appealing and attention-grabbing than 8-bit and, in particular, Spectrum software.

Who can solemnly swear they didn't drink amiably an evening *Quorum Master* or *Starfighter II*? With Spectrum software, you have to wait to be grabbed. Of course, graphics and sound don't necessarily make for a good game, but if *Johnnie Rocco* the latest color-up conversion on the Amiga and the Spectrum, you can bet which one he'll tell Daddy legends. And it's for that reason the Speccy's enduring popularity amazes me. It bodies well for MCI's plans. And my job prospects.

Without further ado, the password for Level 3 is 999979931999966 (probably). Don't you just hate pedantic programmers? I don't think there was much chance of you guessing that one!

## Adventurers Club

Henry Mander of the *Adventurers Club* has been in contact. He was encouraged by my mention of adventures in issue 6, and is currently campaigning for a regular adventure column in this esteemed organ. The *Adventurers Club* is not Spectrum specific, but over 40 per cent of its members are Spectrum owning and the bi-monthly magazine I saw had a large number of Speccy reviews, solutions and tips.

The club offers an extensive postal and telephone helpline and boasts some rather famous contributors - like Pete Austin of Level 9 and well-known adventuring programmer Mike Durrant. I was pretty impressed. Write to 646, Marsch Road, London NW2 3SL for membership details.

Robin May

# AT £9.95 WE'RE REALLY TALKING!

FREE MODEM  
with annual subscription

**T**urn your computer into a communications terminal that will download free software, access up-to-the minute computing information, play exciting multi-user games and talk to other people for only £9.95. Just join Micronet\* before March 31st 1989 and you'll discover a whole new world for less than half the normal price.



**FREE SOFTWARE** Browse through an extensive software library of free programs for all popular machines, including PC compatibles, the ST and Amiga.

**COMMUNICATIONS** Use your computer to communicate with thousands of other users. With electronic mail, chatlines and teleconferencing, Micronet lets you do the talking.



**INFORMATION** Stay informed with Micronet's daily computer news, reviews and features, and then access the huge Prestel database.

**ENTERTAINMENT** Play a range of games, including the popular multi-user game, *Shades*, where the action is live and so are your opponents!



## Low Cost

Now, not only is your first quarter's membership to Micronet less than half price, but using Micronet starts at just 50p an hour,

including telephone charges! And if you need a modem, we'll even give you one free when you take out a year's subscription.

Just phone our Sales Desk on 01-837 7872 or clip the coupon today for more information and a free brochure.

**Join Micronet, and get talking!**

Return to Micronet, Telemat Group Ltd,  
Durrant House, 8 Herd Hill, London EC1R 5EL.

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Tel. No.: \_\_\_\_\_ Age: \_\_\_\_\_  
Machine Type: \_\_\_\_\_



\* Price includes 1 year's membership subscription by direct debit only (monthly £29 and does not include hardware or software. Maximum subscription period 1 year. Offer available only to the UK and new members. Free modem offer available to first time UK subscribers while stocks last.

64  
S E C T O R

### The \$54 Million Dollar Question

We all know how popular the C64 is, but did you know that the machine has worldwide sales of just over 9.5 million units?

And taking into account the (still) phenomenal success of the CMA this Christmas, that figure may well surge to over 10 million!

The old OS/4s come a long way after its first humble appearance back in 1981. Who'd have thought then that it would become the world's most popular micro-computer?

## Derrida

These days, many 64 demo writers are trying to push the machine to its limits by using techniques that originated on the Amiga. In the UK demo writers are tackling full screen animation from crunched data in memory, as with animated demos on the Amiga. Demo codes on the 64 in this country are manipulating graphics showing off the 64 in a way that could easily look cool on TV.

These demands show that the 64 can have as many as 32 sprites flying around the screen in all directions while keeping the side borders open at all times - at the same time having 16 sprites on one line in the bottom borders.

### Mama's top three

**Analyste • Thalman • \$9.99ea, \$12.99ea**  
A superlative shoot-on-up which could easily be translated into a coin-op, and which is the best of the genre on any video to date. An

Instant classic

The Last Ninja 3 + System 3 + £12.99cc.  
£14.99cdk

Despite the dodgy marketing, rubber Shinken Star and cotton Ninja Mask - leave me out - this was a great blend of martial arts kick-em-to-death-em-up and arcade adventure.

Marakeye • Thalassas • EN 9904, €12,990

The latest addition to the myriad of already-available platform-games, but bringing a breath of fresh air to the whole scene. The first game from a bunch of demo creators calling themselves The Boys Without Brains... ok

**What ever happened to...**  
**Bob Hubbard** - The OAA music maestro who left the UK for the sunnier climes of California, USA last year - and was never heard of again.

**Katakini** by Rainbow Arts via US Gold - the R-Type clone that never was, maybe because it was superior to Activision's official R-Type conversion on the C64? We'll never really know.

Commodore SX-64 - Commodore's awful attempt at portable 64 computing.  
Commodore 1280 - Commodore's equally disastrous attempt at 64 professional desktop computer.

**The Perfect Match** - Commodore's attempt at sponsoring a successful football team.

800-4-A-FLIGHT • 800-426-3543



\* Polysaccharide: See Chitin

It all started to go wrong when I chose Chelsea as the team to sponsor.

## Chapters

Thanks to Robert Troughton from West Yorkshire for this nice little tip to make Robocup a bit more powerful than he already is. Just load the game as normal, and once on the title page reset the machine and done.

POKE 4418,6 (for unlimited energy)  
 SYS 32788 (to restart the game)

Here's another poke from the chest machine himself (Robert Troughton) in the simple but explosive game *Better Dead than Alien*. Load the game from cassette, reset, and type:

POKE 40319,189  
POKE 40345,189 (unlimited energy)

## Listino

You may not have an Amiga with a built-in clock, but you do have fingers — so you can type in this digital clock program, which will display the time at the top of the screen.

The clock can be turned on and off simply by pressing F6 and F7. When you turn the clock off it will no longer update onto the screen. The clock will only carry on working if you have not reset the machine. If you have reset the computer then typing 'S83 40157' will start the clock from where it left off.

Jan, Mic + Erik Numa

### Clock listing

```

3  B=H1-07526-RESTORE
4  F=H1-07526-RESTORE.POWER-LA-NEXT3
5  DATA 120,168,88,14,21,3,169,13
6  DATA 141,20,38,98,32,204,192,76,178
7  DATA 182,192,82,8,209,0,193,157,0
8  DATA 232,234,2,388,0,162,168,160
9  DATA 15,17,4,321,224,32,208,16,16
10 DATA 18,18,4,19,192,201,204,0,230
11 DATA 45,165,168,0,341,45,192,173
12 DATA 19,19,201,165,240,238,173
13 DATA 19,19,201,174,1,7,193,173,169
14 DATA 18,18,4,1,238,165,193,169
15 DATA 176,161,6,192,173,4,238,208,195
16 DATA 240,240,240,198,196,176,141
17 DATA 4,193,173,193,202,181,240,4
18 DATA 238,193,160,185,141,14,193
19 DATA 173,1,169,201,185,240,4,238,1
20 DATA 182,196,169,176,141,1,193,173,0
21 DATA 182,196,169,240,4,238,193,169
22 DATA 169,176,141,0,193,169,177,141,1
23 DATA 182,168,176,141,3,202,341,193
24 DATA 141,6,159,141,2,193,96,173,17
25 DATA 208,13,1,208,165,3,141
26 DATA 141,208,165,141,13,208,165,141
27 DATA 141,26,208,76,49,234,32,208,165
28 DATA 173,0,193,202,32,208,10,173,1
29 DATA 192,161,181,206,3,76,153,192,16
30 DATA 165,165,165,208,8,169,159,164
31 DATA 24,162,141,36,192,201,2,208,8
32 DATA 169,169,141,24,162,141,36,192,32
33 DATA 182,186,186,173,176,186,176,186
34 DATA 192,192,192
35 POWER40415,76-HEIM /TIME 01 HOURS
36 POWER40415,76-HEIM /TIME 01 HOURS
37 POWER40415,76-HEIM /TIME 01 HOURS
38 POWER40415,76-HEIM /TIME 01 HOURS
39 POWER40415,76-HEIM /TIME 01 HOURS
40 POWER40415,76-HEIM /TIME 01 HOURS
41 POWER40415,76-HEIM /TIME 01 HOURS
42 POWER40415,76-HEIM /TIME 01 HOURS
43 POWER40415,76-HEIM /TIME 01 HOURS
44 POWER40415,76-HEIM /TIME 01 HOURS
45 POWER40415,76-HEIM /TIME 01 HOURS
46 POWER40415,76-HEIM /TIME 01 HOURS
47 POWER40415,76-HEIM /TIME 01 HOURS
48 POWER40415,76-HEIM /TIME 01 HOURS
49 POWER40415,76-HEIM /TIME 01 HOURS
50 POWER40415,76-HEIM /TIME 01 HOURS
51 POWER40415,76-HEIM /TIME 01 HOURS
52 POWER40415,76-HEIM /TIME 01 HOURS
53 POWER40415,76-HEIM /TIME 01 HOURS
54 POWER40415,76-HEIM /TIME 01 HOURS
55 POWER40415,76-HEIM /TIME 01 HOURS
56 POWER40415,76-HEIM /TIME 01 HOURS
57 POWER40415,76-HEIM /TIME 01 HOURS
58 POWER40415,76-HEIM /TIME 01 HOURS
59 POWER40415,76-HEIM /TIME 01 HOURS
60 POWER40415,76-HEIM /TIME 01 HOURS
61 POWER40415,76-HEIM /TIME 01 HOURS
62 POWER40415,76-HEIM /TIME 01 HOURS
63 POWER40415,76-HEIM /TIME 01 HOURS
64 POWER40415,76-HEIM /TIME 01 HOURS
65 POWER40415,76-HEIM /TIME 01 HOURS
66 POWER40415,76-HEIM /TIME 01 HOURS
67 POWER40415,76-HEIM /TIME 01 HOURS
68 POWER40415,76-HEIM /TIME 01 HOURS
69 POWER40415,76-HEIM /TIME 01 HOURS
70 POWER40415,76-HEIM /TIME 01 HOURS
71 POWER40415,76-HEIM /TIME 01 HOURS
72 POWER40415,76-HEIM /TIME 01 HOURS
73 POWER40415,76-HEIM /TIME 01 HOURS
74 POWER40415,76-HEIM /TIME 01 HOURS
75 POWER40415,76-HEIM /TIME 01 HOURS
76 POWER40415,76-HEIM /TIME 01 HOURS
77 POWER40415,76-HEIM /TIME 01 HOURS
78 POWER40415,76-HEIM /TIME 01 HOURS
79 POWER40415,76-HEIM /TIME 01 HOURS
80 POWER40415,76-HEIM /TIME 01 HOURS
81 POWER40415,76-HEIM /TIME 01 HOURS
82 POWER40415,76-HEIM /TIME 01 HOURS
83 POWER40415,76-HEIM /TIME 01 HOURS
84 POWER40415,76-HEIM /TIME 01 HOURS
85 POWER40415,76-HEIM /TIME 01 HOURS
86 POWER40415,76-HEIM /TIME 01 HOURS
87 POWER40415,76-HEIM /TIME 01 HOURS
88 POWER40415,76-HEIM /TIME 01 HOURS
89 POWER40415,76-HEIM /TIME 01 HOURS
90 POWER40415,76-HEIM /TIME 01 HOURS
91 POWER40415,76-HEIM /TIME 01 HOURS
92 POWER40415,76-HEIM /TIME 01 HOURS
93 POWER40415,76-HEIM /TIME 01 HOURS
94 POWER40415,76-HEIM /TIME 01 HOURS
95 POWER40415,76-HEIM /TIME 01 HOURS
96 POWER40415,76-HEIM /TIME 01 HOURS
97 POWER40415,76-HEIM /TIME 01 HOURS
98 POWER40415,76-HEIM /TIME 01 HOURS
99 POWER40415,76-HEIM /TIME 01 HOURS
100 POWER40415,76-HEIM /TIME 01 HOURS

```

## BLAKELY COMPUTER SERVICES

**\* ALL PRICES INCLUDE VAT + DELIVERY\***

**AMSTRAD PC 2000 SERIES NOW IN STOCK**

WE CURRENTLY HOLD THE CHEAPEST PRICES ON ATARI, COMMODORE, ZENITH & SHARP COMPUTERS.

PCW SOFTWARE		PPC		PAPER		DISKS				
Leoscript II		18.50	PPC 5128	430.00	ALL PAPER PRICES FOR 2000 SHEETS	ALL DISKS UNBRANDED AND GUARANTEED				
Leoscript		18.50	PPC 512	522.00		<b>3"</b>				
Mail Merge		18.50	PPC 5455	516.00		5 CF2	11.00 50 CF2			
Database		28.50	PPC 5450	610.00		10 CF2	19.00 100 CF2			
Database II		77.00				20 CF2	35.00			
Min Office Pkg		21.95	<b>PCW</b>		<b>PRINTERS</b>					
Leosmail		25.00	8256	370.00						
			8512	470.00						
			9512	520.00						
PC 1640		RIBBONS								
Single Mono		530.00	8256/8512 Fabric	3.50	<b>5 1/4" DSDD 96 Tpi</b>					
Double Mono		673.00	8256/8512 Carbon	4.75						
Single Colour		667.00	9512 Multi Strike	3.50						
Double Colour		800.00	DMP 2000/3000	3.45						
Single ECG		814.00	DMP 4000	3.50						
Double ECG		905.00	For larger quantities phone for quote		<b>PRICES INCLUDE 100 CAPACITY STORAGE BOX</b>					
30Mb Hardrive Mono		977.00	ACCESSORIES		35	18.25	100			
30Mb Hardrive Colour		1124.00	Mouse Mat	4.99	50	28.25	48.00			
30Mb Hardrive ECG		1270.00	Surge Protection Plug	14.99	<b>AMSOFT 3" CF2</b>					
1640 + 30Mb Hardisk ad C300					5	11.75	50			
					10	21.00	100			
					20	41.00	185.00			
DESK TOP PUBLISHERS		DISK BOXES								
			3" 25 capacity	6.75	For larger quantities please telephone for a quote					
			3" 48 capacity	8.55						
PCW ACCESSORIES										
Desktop Publisher + Mouse		69.50	1Mb Disk Drive Upgrade	150.00						
Desktop Publisher		27.50	For all machines							
Newsdesk International + Mouse		77.00	RS 232 Interface	62.00	<b>★ ACCESS/VISA ★ TELEPHONE 0846 38779 24 HOURS</b>					
Stop Press + Mouse		77.00	For 8000 Series							
Post Street Editor		59.95								
					<b>★ CHEQUES/P.O. TO ★ BLAKELY COMPUTER SERVICES RATHFRILAND BT34 2HQ</b>					
					<b>HOW TO ORDER</b>					



## Back trouble

You know how it is with most adventures: you get along fine for a while, and then all of a sudden you come up against some seemingly impossible puzzle and your hack and slash adventures that blasted Rebel Ark constraints in *Macintosh*? So all you have met (remember) about their having trouble with Level 5's *Imp's Back* (the thing backache) or *Locusts* will, for me, welcome the free downloads now available for these two mad-benders. Simply fill in the coupon supplied with the respective game and soon you'll be back on the true path. The only thing is, I always feel a little guilty if I use such cheats. On the other hand, if I didn't I doubt I'd ever get anywhere!

## You must be jowling

Humane multi-billionaire US Gold's New Year resolution, which I for one welcome wholeheartedly, is a promise to release fewer games in '89 and concentrate on quality instead. It doesn't say anything in that beyond a bit of PR talk I still be very pleased (you thought I was going to say surprised, didn't you?)

The thing is, US Gold really can do it when it tries. In '88 it produced a quite decent action conversion with *720*, the extremely pleasant *Quantum II* and impressive *Mancos II* and the innovative and highly

impressive *Revels of the Lance* (well, it finally appeared in the last days of '88, truth be told). Any chance, by the way, you lovely US Gold people, of getting our *Pool of Radiance* on the CPC?

Of course, the other side of the coin (and, let's face it, coin is never far from these people's minds) is that games which must necessarily be *improved* (given a right old slugging off actually sold by the millions). Even now retailers' shelves with greed at the mere mention of *Out Run*. So what incentive does US Gold have to keep this resolution? You tell me.

One looms I look forward to and hope not to be bitterly disappointed by is the first fruits of the deal signed with *Locusts*, which will be the new *Indiana Jones* film, due for release in mid-'89. We always thought that *Indiana* makes the ideal character for a game. Fancy replacing out on *Crocodyl Dundee*, anyone?

## Christmas cracked

It's at this time of year your computer looks at its event (as indeed you may do too). In those games you received as gifts have been played and stop for two weeks, the period in Christmas cracked and, chances are, so is your CPC.

Getting a repair done can be tricky though. *Amstrad* doesn't accept dealers unless it packs them off to a contract repair shop who shouldn't be allowed to put a plug in a kettle, let alone open up and fiddle with the sensitive bits of your precious com-



## Advanced Dungeons & Dragons

heard a back whinge). This is indeed the worst if you machine is still under guarantee - give the responsible party ten minutes on-batching a day, and they'll have a replacement sent to you, possibly before

## Short shopkeepers rejoice

**SD Microsystems** is to release an integrated accounts-computer package for the CPC. The *Stock Accounting System* costs £28.95 so that 128K machines only, and includes a stock control program, with an invoicing system and sales ledger built in, together with pricing routines to make hard copies of documents.

Though I can't pretend I use such software day in and day out (my bank manager kindly keeps me fully up to date with the state of my overdraft for me), **SD Microsystems'** previous releases, such as the *Small Traders Pack* (sounds odd, same as a pack for short shopkeepers?) have struck me as friendly, useful items ideal for a one-person company.

I've been impressed too by the excellent support it offers its customers - and that's according to the letter, not the former! So I think I'd recommend its new *Small Traders Club*, which offers help and advice as well as a small quarterly newsletter.

Membership is a modest £10 per annum, and if you do decide to give it a go I'd be glad to hear how you get on, and whether you think you're getting your money's worth. **SD Microsystems** can be called on 0462 675106.

your grandchildren, have kind of old age. There are those main things to watch out for: first, find a local company, because if you can lag the computer back and forth, you'll save yourself from the deadly 'it's in the post' excuse. Next, make sure you get their phone number. You can't poster them enough. Keep on and on. It's bad manners, but people trust all over you if you give them hell a chance.

Finally, get a quote beforehand. Some repairs are actually cheaper than they should be (I was once charged nothing for a new set of oscillators on an interface), but not surprisingly many repairs are over-priced. Beware, for example, of any company which asks more than £40-50 for something which apparently requires no space (cleaning, re-soldering etc) - though admittedly keyboards and disk drives can if they're physically harmed. Ask why it costs so much.

## The story so far

Now lets see if we've got this right. Computing with the *Amstrad CPC* involves up *Aclic*, changes its name to *CPC Computing*, merges with *Amstrad Computer* (which now goes flogged off for 15p plus two old boxes to focus).

Try the post subscribers, I say, who can't switch allegiance to *Amstrad* *Amstrad*. Not that I'm biased, of course.

Steve Curry (editor, *Amstrad Action*)

## AUTHORISED DEALERS FOR



OPEN 9am To 7pm  
SIX DAYS A WEEK  
EVERY WEEK

## HOMESOFT (UK)

Software and Hardware



## ALMOST PROBABLY THE CHEAPEST MAIL ORDER/RETAILER IN EUROPE

### 16 BIT ATARI AMIGA

Battlefield	16.80
Ball	11.90
Black Tiger	12.90
Buggy Boy	14.90
California Games	12.90
Dungeon Master	14.90
Elite	14.90
Fish	14.90
Flight Simulator II	23.90
F.O.T.	17.90
The Games	12.90
Hero of the Lance	15.90
Hostages	14.90
Int. Karate	11.90
Iron Lord	16.80
Interceptor F/A 18	16.50
Menace (Dragon)	11.90
Operation Wolf	11.90
Outrun	13.90
Pacmania	11.90
Pool of Radiance	15.90
Speedboat	14.90
Turbo Cup	11.90

### JANUARY SPECIAL

AMIGA ASAO COMPUTER  
WITH FREE MODULATOR  
+ JOYSTICK + FREE  
PIECES OF SOFTWARE

ONLY £369.00

1040ST Business Modulator  
& 386/387  
ONLY £445.00

Philips CM8833 Hi Res  
Stereo Monitor £233.00  
Both with FREE leads  
Commodore 10845 Hi Res  
Stereo Monitor £253.00

Cumana 1Mb External Disk  
Drives Atari ST or Amiga  
ONLY £95.00

Asai 520 STFM Super Pack  
Includes £450.00 worth of  
SOFTWARE & JOYSTICK  
ONLY £350.00

Asai 520STFM Computer  
with 1Mb Drive  
ONLY £279.00

Amiga & Monitor  
Pack 1  
10844 or CM8833  
ONLY £595.00

### HAPPY NEW YEAR TO ALL OUR CUSTOMERS

ACCESS-VISA  
HOTLINE  
0772-452414

ORDERS  
DESPATCHED  
WITHIN  
12 HOURS  
BY 1ST CLASS MAIL

### PERIPHERALS

Competition Pro Ex	Joystick	11.50
Competition Pro 5000	Joystick	11.35
Cheats Mach 1+	Joystick	9.50
Cheats 125+	Joystick	6.80
Cheats Starlighter	Joystick	11.50
Konix Speeding	Joystick	9.70
Quickshot II Turbo	Joystick	9.99
Quickshot II Plus	Joystick	10.65
Microblaster	Joystick	5.90
Magnum	Joystick	9.30
Konix Navigator	Joystick	12.50
Konix Speeding	Joystick	10.20
Sunder Economy	Joystick	4.99
3.5" DS/DD Disk Per 10	Joystick	3.50
3.5" DS/DD Disks Per 50	Joystick	47.00
3.5" DS/DD Disks Per 10 in case	Joystick	10.50
100 Cap 3.5" Storage Box	Joystick	5.90
100 Cap 5.25" Storage Box (White Stock Last)	Joystick	4.50
190 Cap 3.5" Posse Storage Box	Joystick	14.99
3.5" Head Cloning Disk	Joystick	2.50
Two Joystick Extension Lead	Joystick	4.50
Quality Mouse Mats	Joystick	4.50



MAIL ORDER: PO BOX 49, LEYLAND, PRESTON, LANCASHIRE PR5 1UD  
RETAIL: 37 SEVEN STARS ROAD, LEYLAND, PRESTON, LANCPS PR5 1AN  
PHONE: 0772 452414, 9am Till 7pm six days a week.

All prices include VAT and Postage, Hardware Included. Add £2.00 Europe per item. Courier Service available  
Goods subject to availability and change without prior notice. Offer ends 31st January 1989. HOMESOFT (UK) cares for its customers







### A xxxxxx fortune

Speed, speed, speed! No, it's not a credit card calculator, it's a Poole Predictor. Best considered what it's like to be a Poole writer, and how on earth to cash a nine-foot wide cheque!

cheque? Poole Predictor, a new analysis program from Corvus Computing, promises to give you accurate form-based predictions for the writer's words complete. Unfortunately you have to live in all the results every weekend to keep the form book up to date, but of course it's better than a pin. Poole Predictor is available from Corvus (0496 2800) for £15.99, and pins are available from your local haberdashery for 25p per hundred.

### Long story

For all those writers who find their sentences are too long there is now the updated version of Scanbus Software's program called Teatext 2 which not only gives you a word count but will also give average sentence and word lengths to make sure you're not losing your readers and its telephone number is 01 516 4032 and the price of the program is £3.99 and you can even work out the reading age of the piece you're writing so that you know how useful, smart? it?

### Empty phrases

There's an easy way to delete phrases from an existing set in Lexicomp 2, so of course it's not mentioned in the manual. When you've got the phrases showing [F1] in the disc manager, where phrases) delete the ones not required by moving the cursor onto each and pressing [J]. Save the new set, if you like, under an appropriate name like EMTPTYPR (name) option in the same menu).

Nab Ainsley



### Enigmatic pricing

I was interested to read about the QL-enigmatic Enigma being produced by ABC Electronics in Haverley. ABC has been on the QL scene for a couple of years now - its Enigma mouse first-aid and add-on AT-style keyboards have received much acclaim, but the Enigma's price tag at £399 seems steep when you consider you're getting 1 Meg of RAM, a PC keyboard, mouse and single disc drive.

Since you can now pick up a QL with a 705B Master System Tramp Card and dual 5MB disc drives for £335, I'll have thought ABC could have dropped another £180 and still covered its margins on the keyboard and mouse. We'll just have to wait and see how it sells.

### Amiga overlap?

Over in the Amiga world they're waiting the

release of H8bit Basic - and the new Amiga version is compatible with QL Superbasic.

You'll be able to port programs written on the QL over to an Amiga and then compile them to run as stand-alone routines. So Amiga owners into Basic programming would be able to develop software for the QL, make it and port it to the Amiga to recoup even more of their costs.

### Future trials

Sector Software has now claims to be one of the main companies in the QL market. Its Taskmaster program transformed the QL's screen potential into a true multitasking environment that still loads the words off the pins' mechanisms of the Amiga's operating system.

Sector has at least two programs planned for release this year. First off is an extension to the popular Flashback Database - a report generator - but the bigger for all serious business QL users is an Invisi Processor based on the Third Track and Brain Storm packages for the IBM.

This is like a briefcase word processor where words can be tagged to refer to other words in the text. As such you generate nested areas of data - levels and sub-levels if you like - so you can work up 80 ideas from scratch to conclusion and print out the process to any degree of complexity.

Sector's David Batty even goes so far as to claim the package can be used to facilitate structural programming. He also told me he was the best paid yet for his company and he expects interest and enthusiasm for his machine to continue on and beyond the emergence of Third Rail. Right. Here's to his future success!

Robert Myers

## Nijuu yon pin purintaa doraibaa

Genuine Japanese for '24-pin printer driver'. 24-pin printers were developed in Japan to cope with the detail required for kanz, those squiggly characters used by the Japanese. There are a bewildering number of them but they all look confusingly alike and are tremendously complicated - and the same goes for the kanz.

Laserwriter is offering NEC 24-pin printers to go with its 24-pin printer drivers for Lexicomp 2. This enables you to print out anything you like in glorious 24-pin quality. Yes, all those Lexicomp Cyrillic letters, mathematical symbols and Greek accents come out in a single pass in two dozen dot detail. £549 plus VAT gets you the connecting cable with printer driver software for an NEC PS Plus.

As this is a bit expensive it'll throw in an NEC PS Plus printer free. £249 buys another printer driver, for an NEC P2200. It will throw in a cable free again, and an NEC P2200 too.

The printer drivers are also available for £24.95 without the free printers. More details on 0306 749606.

# QL SUB

## SUPPORT FOR USERS WORLDWIDE

**We can save you  
TIME, EFFORT AND MONEY**

**We are here now  
We can help, we can deliver**

**Magazine and catalogue free  
on request**

**Find out about this for yourself  
Tel: 0388 450610  
SUB, PO Box 3, Shildon, DL4 2LW**

## T.C. COMPUTERS

at: 12a BARNARDS WAY, CHARLTON HEIGHTS,  
WANTAGE, OXON OX12 7ER

AMIGA A500 Pack 1 .....	£349
AMIGA A500 Pack 2 .....	£369
AMIGA A500 Pack 3 .....	£389
AMIGA A500 Pack 4 .....	£399
AMIGA A500 Pack 5 .....	£409
AMIGA A500 Pack 6 .....	£419
AMIGA A500 Pack 7 .....	£429
AMIGA SYSTEM 500 Pack 1 .....	£299
AMIGA SYSTEM 500 Pack 2 .....	£329
AMIGA SYSTEM 500 Pack 3 .....	£349
COMMODORE C64 Hollywood Pack .....	£140
COMMODORE C64 Entertainment Pack .....	£179

ATARI 520 ST FM New Super Pack .....	£340
SINGLARI 3-in-1 Games & Joystick .....	£129
SINGLARI 3-in-1 Games & Joystick .....	£179

### GO TO T.C. COMPUTERS



ALL PRICES INCLUSIVE OF VAT

### IT'S A PITY HE DIDN'T...



COMMODORE PC-10 50 Mono .....	£245
COMMODORE PC-10 50 Colour .....	£240
COMMODORE PC-10 80 Mono .....	£215
COMMODORE PC-10 80 CGA Colour .....	£175
COMMODORE PC-10 80 VGA Colour .....	£200
COMMODORE PC-10 80 VGA CGA Mono .....	£160

COMMODORE PC-10 80 386 HD Mono .....	£1025
ATARI PC-3 50 Mono .....	£610
ATARI PC-3 50 Mono .....	£580
ATARI PC-3 50 CGA Colour .....	£750
ATARI PC-3 50 VGA Colour .....	£980
PICKARD BELL PB 600 50 Mono .....	£325
PICKARD BELL PB 600 80 CGA Colour .....	£240
PICKARD BELL PB 600 80 VGA Colour .....	£260
PICKARD BELL PB 600 80 VGA CGA Mono .....	£1875
COMMODORE PC's incl. FREE software and 102 keyboard on PC10/305 .....	
PICKARD BELL PC's incl. FREE software and 12 month on-site warranty .....	
ATARI PC's incl. FREE software and mouse .....	

OXFORDSHIRES PREMIER COMMODORE DEALER  
**WANTAGE 02357 - 60177**



# BCL

## Best Computers Ltd Repair Centre

### STOP PRESS !

*Has your computer broken down?*  
**Don't despair we'll repair!**

**Our experienced technicians undertake  
ultra fast repairs on all makes of  
18, 16 and 32 bit machines.**

### WE REPAIR:

**Atari ST 520/1040  
Commodore Amiga 500/1000/2000  
Commodore 64  
Sinclair 48K Spectrum & the full Spectrum range  
Amstrad 464/664/6128  
All IBM and compatible machines  
Hard disk and drive installation  
(spares and Commodore also available)  
and many many more ...**

Come and visit us at:



## GALAXY AUDIO VISUAL

(1ST FLOOR)

**230 TOTTENHAM COURT ROAD, LONDON**  
**TEL: 01-631 0139**

## AKAIDO ARCADE SYSTEMS

### REQUIRE PROGRAMMERS FOR:

ST/AMIGA/PC/C64

To work on exciting new projects,  
in house or freelance.

Apply to:

Personnel Manager  
Akaido Arcade Systems  
Albermarle House  
Osborne Road  
Southsea  
Hants  
PO5 3LB  
Tel: (0705) 291 866

## Sentient Software Ltd.

(Established 1984)

### Require

In-House Programmers

Fully Conversant In At Least One Of The Following:

Z-80 (Spectrum/Amstrad/MSX)  
6502 (Atari ST/Commodore Amiga)  
68000 (Atari ST/Commodore Amiga)  
8086 (IBM PC & Compatibles)

We Offer State Of The Art Development Systems,  
Experienced Back-Up  
and Good Remuneration For Your Services.

If You Are Looking For A Change, Or A Chance To Break Into The  
Ranks Of Professional Programming Then Contact:

TONY FAGELMAN on 0632 791136

Or Write Enclosing Your C.V. And Examples Of Your Work To:

TONY FAGELMAN  
SENTIENT SOFTWARE LTD  
BRANCH HOUSE  
18 BRANCH ROAD  
ARMLEY, LEEDS  
WEST YORKSHIRE  
LS12 3AQ



## TIERTEX Ltd

10A Barlow Moor Road,  
Didsbury  
MANCHESTER M20 0TR

*Due to major expansion, one of the U.K.'s most experienced development houses requires the following individuals to complement its current in-house team.*

### PROGRAMMERS GRAPHIC ARTIST

(All Formats)

*The above positions are full time and based at our new Manchester offices. Remuneration is dependant on experience and a comprehensive bonus scheme will also be included.*

*The successful applicants would be working on the creme of Coin-Op conversions and exciting original projects for Europe's top software publishers.*

*If you think your work measures up to our past projects like Thunder Blade, Last Duel and 720°, please send examples of your work together with a C.V. to the above address.*

*Alternatively, phone John Prince on 061 446 2251 to discuss these opportunities further, all applications will be dealt with in the strictest confidence.*

\_\_\_\_\_

with SC1224 colour monitor: £898.25

Use SM134 mono monitor £499.95 1

With SM124 mono monitor:	£598
With SC1224 colour monitor:	£798

ATARI 1040ST-FM	(Computer)	\$499.5
VIP PROFESSIONAL	(Spreadsheet)	\$749.5
MICROSOFT WRITE	(Word Processor)	\$149.5
SUPERBASE PERSONAL	(Database)	\$59.5
BASIC DISK & MANUAL	(Language)	\$24.5
NORMAL RRP:		\$884.5
LESS DISCOUNT:		\$385.5
PROFESSIONAL PACK PRICE:		\$499.5

The Mega ST computers are styled as all lightweight keyboards connected by a coiled telephone style cable. There are two versions: one with 2Mb of RAM and the other with 1Mb. The Mega ST double sided tape drive built-in to the base unit with a monitor, modulator built-in and must therefore be used with a monitor. Purchased, we will add the Professional Pack software (two disks) for £199.95.

	2Mb MEGA ST	1Mb MEGA ST
• monitor	£199.95	£149.95
• colour monitor	£199.95	£149.95

**MEGA ST**  
with a separate CPU,  
you get the MEGA ST  
option has a 1Mbyte  
T2 30 not come with  
and every MEGA ST  
costs £289.00 (delivered)

**MEGA ST**  
**1199**  
monitor: £1298  
monitor: £1490



Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari 54 named PageStream. PageStream costs only \$495 (a \$697-\$719.95 MSRP). Because it works with an Atari 1040S<sup>®</sup> and a Linkable EP-8000<sup>®</sup> printer, you can be up and running with a complete system for less than \$1000. Some of the features of PageStream are listed to the right. If you would like further information on this

- TEXT FLOW AROUND GRAPHICS
- ROTATION OF TEXT & GRAPHICS
- SLANT OR TWIST ANY OBJECT
- POSTSCRIPT COMPATIBLE
- TAG FUNCTION
- ALPHANUMERIC SEARCH & HYPERTEXT
- GROUPING OF OBJECTS

If you already own an Atari ST computer and would like to be registered on our mailing list as a ST user, let us know. We will be pleased to send you copies of our price lists and newsletter FREE OF CHARGE as they become available. Complete the coupon and return it to our Sales, Service, and Loan Department (a specialist ST service that is second to none).

**SIDCUP (& Mail Order)** 01-309 111  
1-4 The Mews, Hatfield Road, Sidcup, Kent, DA14 4DA  
GREEN MON-SAT 9am - 5.30pm LATE NIGHT, FRIDAY 9am - 2pm

**LONDON** 01-580 400  
52 Tottenham Court Road, London, W1P 0DA  
GREEN MON-SAT 9.30am - 5.00pm LATE NIGHT, WED

**LONDON** 01-629 1234 ext 391  
Sedgelyard, 114 Hatfield, Oxford Street, London, W1A 1AD  
OPEN MON-SAT 9am - 6.30pm LATE NIGHT, THURSDAY 9am - 5pm

The range of Atari ST computers offers something for everyone. From the greatest simulators to the worlds of challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or business presentations, the ST offers high quality graphics sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, law, science, and a variety of other professional fields. The ST is also the most powerful and versatile home ENTERTAINMENT software for the range of machines in the world. With the ST you can play the best of the COLOURS, ACTION, ADVENTURE, LOGIC, and COMBAT games. You can also play the best of the BUSINESS, EDUCATIONAL, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, Logosoft will return the coupon below.

The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a SuperDisk™. My Windows™ disk drive as well as a free mouse controller, comes with a VHS recorder. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the versatile game Ramblers, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Siles, we will give you the Siles ST Starter Kit worth over £200. FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

**£260** ONLY £2.51 PER WEEK  
RETURN COUPON FOR 10 WEEKS  
 +VAT= **£299**

+ SMT24 mono monitor: £399.95 + SC024 colour monitor: £599.95

**Before you decide** when to buy your first A&P, it's important you understand the company's history and how you fit in. There are 1,000 franchisees nationwide, and you'll be one of them. You'll be responsible for the success of the store you own, and you'll be responsible for the success of the company. There are 1,000 companies who can offer a wide range of products for your company and expect them to help when you need it. There is ONLY ONE company who can provide the largest range of A&P.

related products in the U.S. for the first time after 17 years. The new **Hydro-Tek** and **Hydro-Tek II** are designed to help you get the best from your **30" FREE CATALANES**. Matted down to your feet as you go, they'll keep you from slipping on the wet pavement. **FREE OVERSIGHT SERVICE**. On all orders, we'll have a representative call you to make sure you're getting the most from your **30" FREE MATING PROGRAM**. We'll help you with any questions you have about your **30" FREE TECHNICAL HELPLINE**. And we'll have a representative call you to make sure you're getting the most from your **30" FREE**

**FREE SILICA STARTER KIT  
WORTH OVER £200**

WITH EVERY ST - RETURN COUPON FOR DETAILS  
ALL PRICES QUOTED INCLUDE FREE UK DELIVERY

**PLEASE SEND FREE LITERATURE ON THE ATARI ST**

McMrs/Mr \_\_\_\_\_ Initials \_\_\_\_\_ Surname \_\_\_\_\_

**Abstract:** The purpose of this study was to determine the effect of a 12-week training program on the physical fitness of 10-year-old children. The study was conducted in a primary school in Istanbul, Turkey. The children were divided into two groups: a control group and an experimental group. The experimental group participated in a 12-week training program that included aerobic, strength, and flexibility exercises. The control group did not participate in any training program. Physical fitness was measured at the beginning and end of the 12-week period using a series of tests including a 1000m run, a 15m shuttle run, a 1min sit-up test, a 1min plank test, and a 1min side plank test. The results showed that the experimental group had significantly higher scores than the control group in all tests at the end of the 12-week period. The findings suggest that a 12-week training program can improve the physical fitness of 10-year-old children.

Postcode: .....

Do you already own a computer? \_\_\_\_\_  
If so, which one do you own? \_\_\_\_\_

# Where do you buy a colour printer for £229 at 3.15 on Saturday afternoon?

## NORTH LONDON



99 PARK STREET LANE  
BRICKET WOOD  
ST. ALBANS, HERTS  
(0727) 72790

## MANCHESTER



85 WASHWAY ROAD  
(OPPOSITE IBM)  
MANCHESTER  
061-962 0780

## WEST LONDON



304 KINGSHILL AVENUE  
(off Uxbridge Road)  
HAYES, MIDDLESEX  
01-841 8744

## BIRMINGHAM



1046-1048 COVENTRY RD  
HEYMILLS, BIRMINGHAM  
021-772 5212

SHOWROOM OPENING HOURS: Monday-Friday 9am-6pm Saturday 10am-5pm

# COMPUTER EXPRESS

## STAR LC-10 COLOUR

The star of the printer world. Already its topping the hit parade. For the money no other printer offers so much. 64 column multi-line printer with 8 resident fonts and paper parking. 144cps draft and 36cps in MD quality. Parallel or Commodore interface versions available. £228.00  
Basic only version £198.00

**WE ACCEPT EXPRESS VOUCHERS**

# not to mention . . . . .

## TIMEWORKS

The fastest in low-cost GTP. An excellent package for anyone wanting to make a start in GTP for a very modest sum. Timeworks is very popular, and has good telephone support from the manufacturer.  
IBM £89  
Alien £89

## ATARI 1040ST-FM

All the brilliance of the Atari with 1050 or HiRAM and 1MB double sided disk drive. £399

## GAMES SOFTWARE

Carnegie Command	Atari Amiga £21
Campanian	Atari Amiga £23
Daguer File	Atari Amiga £23
Daily Thompson	Atari Amiga £23
Right Simulator 2-EM	Atari Amiga £23
Garfield	Amiga £16
Intelligence	Amiga £23
Monaco	Amiga £17
Operation Wolf	Atari Amiga £16
Star Wars	Atari Amiga £16
Star Wars	Atari £16
STOS Game Creator	Amiga £23
Super Hang-on	Atari £26
	Atari £18

**ATARI**  
**520ST-FM**

1Mb

**£299**

plus V.A.T.

With SUPER PACK  
of over £400 worth  
of FREE software

# We're there because you're there.

FOR FULL PRICE LIST PLEASE CALL  
EXPORT & TRADE ENQUIRIES WELCOME  
TELEPHONE & MAIL ORDERS WELCOME



**CALL 0727 37451**



MICRO-COMPUTERS, PERIPHERALS  
SOFTWARE, SALES & SUPPORT  
CREDIT CARDS NOT DEBITED UNTIL DESPATCH

OPENING IN 1989: LEEDS, NEWCASTLE, GLASGOW, BRISTOL & SOUTH LONDON